P-47D THUNDERBOLT VS Ki-43-II OSCAR

New Guinea 1943–44

MICHAEL JOHN CLARINGBOULD

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INTRODUCTION

The aerial contest in New Guinea skies between the mammoth P-47D Thunderbolt and the smaller but highly maneuverable Ki-43-II "Oscar" showcases the changing nature of air power in this theater throughout 1943. By year-end fighters like the Thunderbolt had severely swung the balance of power in favor of the Allies. The name "Thunderbolt" was apt for the powerful type, as was the Japanese name for the Ki-43 – "Hayabusa," which translates as Peregrine Falcon, a predator renowned for its agility. Compared with other fighters of the era, the Thunderbolt was a giant. Its pilots were dwarfed by the large-diameter four-bladed propeller driven by the aircraft's colossal Pratt & Whitney R-2800 radial engine. With a maximum take-off weight just shy of eight tons, the P-47 was armed with eight 0.50-cal Browning M2 machine guns. These weapons gave the Republic fighter four times the firepower of the "Oscar."

In New Guinea, the Thunderbolt competed with the much-admired and more technologically advanced Lockheed P-38 Lightning for top spot as the Allied fighter of choice in-theater. Thus, and in a situation where everyone coveted the P-38, the P-47 was regarded by many as an interim measure.

Although Thunderbolt pilots faced several different types of enemy fighters in capricious tropical conditions during 1943–44, by far their most common adversary was the Ki-43-II Hayabusa, codenamed "Oscar" by the Allies. These two aircraft were the products of radically different design philosophies. The Thunderbolt was heavy yet swift, and packed a massive punch. The "Oscar" was the complete opposite – lightweight, nimble and highly maneuverable, but with light armament. It was, nonetheless, deadly in the hands of an experienced pilot, particularly at low altitude.

Although the opposing pilots were comparable in ability in New Guinea at this point in the conflict, their respective mounts were from opposite ends of the performance spectrum. A paradox arising from this contrast is that few aviators from either side would have traded aircraft types given the opportunity. The Imperial Japanese Army Air Force (IJAAF) ethos and training emphasized maneuverability and flying skill in combat – philosophies that directly influenced the way Nakajima designed

Seven Thunderbolts from the 348th FG are parked alongside the Marston matting pierced steel planking runway at 14-Mile (Schwimmer) Drome, situated approximately 14 miles north of Port Moresby, in November 1943. More P-47s can just be seen sat in the treeline to the left of the taxiway. Three of the fighters have the very latest "star and bars" national insignia applied to their fuselages. (Author's Collection)

the Ki-43 in the late 1930s. Underpinning the combat mentality of every Japanese pilot was that the greatest honor was to die in battle. This contrasts with the USAAF teaching its aviators to fight cleverly so as to survive to fight another day. This was certainly borne out in the "hit and run" tactics favored by many P-47 pilots and finessed by Col Neel Kearby, the chief architect of Thunderbolt *modus operandi* in New Guinea.

It is appropriate at this point to clarify the geography of the area that served as the backdrop for the aerial clashes between the P-47 and Ki-43. For the Americans, the term "Wewak" had a broad definition, encompassing the town's four airfields (But, Dagua, Boram and Wirui, also known as Wewak airfield), Wom Point and the township itself, as well as numerous other locations along the northern New Guinea coast including Brandi Plantation. The term is similarly used broadly in the text. For the Japanese, New Guinea ended at the Dutch New Guinea border, spilling over into the Eastern New Guinea theater. This volume confines itself to New Guinea operations, although I also touch on the evacuation to Hollandia, which lay in the Eastern New Guinea theater.

During this campaign the USAAF had a formidable weapon that was unmatched by anything fielded by the IJAAF – the low-level strafer. In the form of B-25 Mitchells or A-20G Havocs, these strafers systematically destroyed the "Oscar" inventory on the ground. The littoral of abandoned and shattered aircraft starkly highlights the fact that the IJAAF never planned to wage a sustained campaign in such a remote part of the world. However, the strategic imperative to deploy to New Guinea took precedence over the logistical considerations so essential to maintaining such operations. At first, regular convoys to Wewak provided ample fuel for operations. As the arriving vessels decreased in number due to Allied air attacks, fuel was increasingly rationed. By early 1944 it was almost exclusively allocated for defensive fighter operations and field generators, thereby negating the initial objective of strategic offense. A lack of spare parts posed another

Ki-43-IIs of the 24th Sentai parked at Dagua shortly after the unit's arrival at Wewak in May 1943. A truck fitted with a Hucks starter unit is parked in front of the fighters in the background. (Dr. Yasuho Izawa Collection)

challenge, although stripping of airframes partially alleviated this problem. Finally, the IJAAF never had sufficient engineering resources in place to build effective protective revetments or disperse their aircraft to protect them from enemy air attack.

For both sides, New Guinea's harsh tropical environment played havoc with cooling, mechanical and hydraulic systems. Even the uncomplicated Ki-43 was not exempt from such problems, with Allied pilots routinely reporting encounters with "Oscars" with one gear leg down due to retraction failure, or wing drop tanks that had hung up. Unlike the Americans, the Japanese lacked access to bitumen with which to pave their runways, leaving the Ki-43s at the mercy of surfaces that alternated between mud and dust. By mid-1943 IJAAF airfields were also routinely pockmarked by cavernous craters made by 1,000lb bombs dropped from USAAF Liberators.

CHRONOLOGY

1942

November 18 An IJAAF–IJNAF Central Agreement on operations in New Guinea, New Britain and the Solomons is ratified, committing the 6th Hikodan (Air Division) to the theater.

December 18 Fifty-seven 11th Sentai Ki-43-Is arrive at Vunakanau (Rabaul) from Japan via Truk in the central Pacific.

December 19 Wewak area is occupied by the Imperial Japanese Army (IJA).

1943

January 3 A follow-up IJAAF–IJNAF agreement authorizes the IJAAF to assume sole responsibility for operations in New Guinea.

January 9 1st Sentai arrives at Vunakanau (Rabaul), equipped with 53 Ki-43-Is.

May 24th Sentai deploys to Wewak area with Ki-43-IIs.

June 14 First Thunderbolt ground echelon, from the 342nd Fighter Squadron (FS)/348th Fighter Group (FG), arrives in Australia.

June 27 First Thunderbolts arrive in-theater, being unloaded at Brisbane wharf.

July 2 and 4 Ki-43-IIs escort 14th Sentai Ki-21 bombers on missions over the Solomon Islands.

July 11 59th Sentai moves from Lautém, Timor, to But airfield with 27 Ki-43-IIs.

July 14 First 25 Thunderbolts fly to Port Moresby from Australia, the fighters being led in two contingents by the CO of the 348th FG, Lt Col Neel Kearby.

August 16 First Thunderbolt mission in-theater. 2Lt Wilburn Henderson downs a 59th Sentai "Oscar" for the first Ki-43 kill credited to the P-47.

August 17 1st Sentai leaves New Guinea and hands over 17 Ki-43-Is to the 13th Sentai.

September 30 59th Sentai pilots fly to Manila for recuperation. The unit hands over its remaining 15 Ki-43-IIs to the 68th and 78th Sentai, which are low on serviceable Ki-61 "Tony" fighters.

October 24th Sentai returns to Japan, handing over its Ki-43-IIs to the 14th Hikodan (comprised of the 68th and 78th Sentai).

October 11 Lt Col Tamiya Teranishi, CO of the 14th Hikodan and flying a Ki-43-II, is shot down by newly promoted Col Neel Kearby near Wewak.

October 30 Thirty-two Ki-43-IIs of the 248th Sentai arrive at Dagua.

October 31 59th Sentai returns to Wewak after resting in Manila, bringing with it 25 new Ki-43-IIs. Unit CO, Maj Takao Fukuda, is lost en route.

November 3 36th FS/8th FG receive 18 P-47Ds. Not a single Thunderbolt from the group will be lost to an "Oscar."

November 30 13th Sentai withdraws to Wakde in Dutch New Guinea.

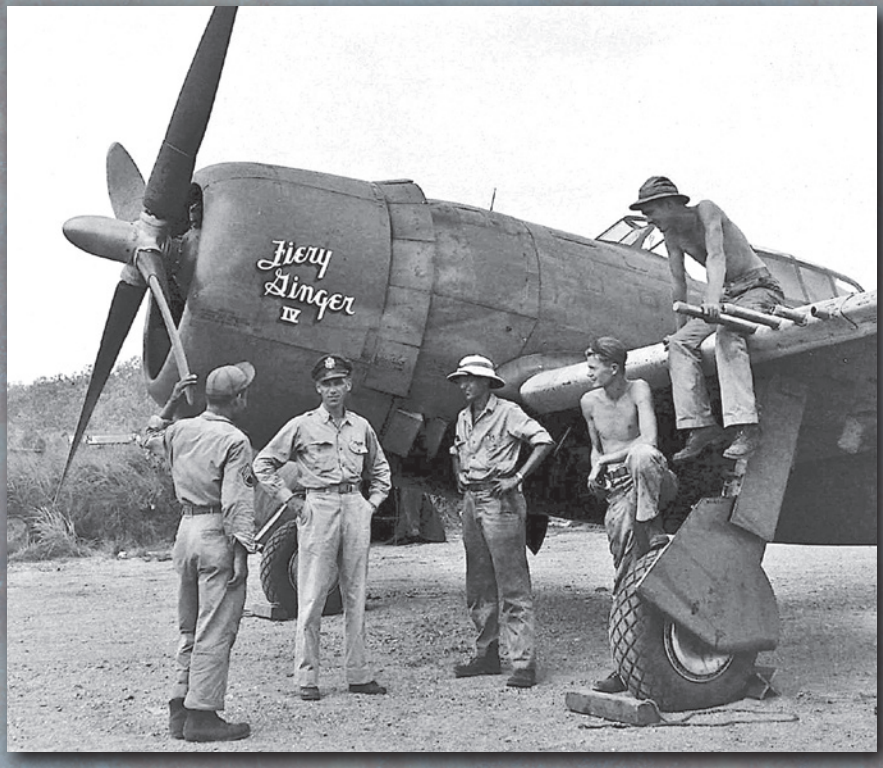
November/ December All three squadrons from the 348th FG move to Finschhafen.

December 35th FG receives its first Thunderbolts.

1944

January 9th FS/49th FG receives its first Thunderbolts.

January 3	63rd Sentai (without its 1st chutai) arrives at Wewak with 28 Ki-43-IIs. The 248th Sentai move to Boram from Wewak to make room for the unit.
January 11	The 1st chutai of the 63rd Sentai arrive at Wewak with 11 Ki-43-IIs.
February 2	58th FG Thunderbolts fly the group's first combat mission from Saidor.
February 14	First 35th FG Thunderbolt (possibly) shot down by an "Oscar."
February 17	The ten surviving pilots of the 59th Sentai return to Japan in two Ki-49 "Helen" transports. Unit is reconstituted and reinforced, but it never returns to New Guinea.
February 26	33rd and 77th Sentai start arriving at Wewak, flying in 50 Ki-43-IIs.
February 29	Allied forces invade Los Negros in the Admiralty Islands, capturing Hyane airfield. The latter had been used as an IJAAF transit point and a base for aircraft tasked with protecting Japanese transport vessels.
March 5	Col Neel Kearby shot down by 77th Sentai pilots WO Mitoma Koichi and/or Sgt Hiroshi Aoyagi.
April 11	Last occasion "Oscars" contest Wewak skies, and the first time 58th FG Thunderbolts fight Ki-43s, losing three P-47s.
April 21	Last combat for the Ki-43 (from the 63rd Sentai) over Hollandia.
April 22	Hollandia is invaded at dawn in Operation *Reckless*. All IJAAF personnel are ordered to escape west to Sarmi on foot.



Col Neel Kearby (second from left) chats with groundcrew at Wards Drome in December 1943 just after receiving his latest, and final, Thunderbolt, christened *Fiery Ginger IV* in honor of his red-headed wife, Virginia. The aircraft (P-47D-42-22668) is brand new, indicated by the lack of victory markings. Kearby would lose his life in this fighter on March 5, 1944. (Author's Collection)

DESIGN AND DEVELOPMENT

REPUBLIC P-47 THUNDERBOLT

In June 1940 the United States Army Air Corps (USAAC) issued a requirement for new lightweight fighter designs, and among those manufacturers to respond was the Republic Aviation Corporation of Farmingdale, New York. Although a relatively "new" company, Republic had inherited vast experience in fighter design from its predecessor, the Seversky Aircraft Corporation. Republic's chief engineer, Alexander Kartveli, who, like his former chief, Maj Alexander P. Seversky, was of Russian extraction, had designed the P-35 to meet a 1935 USAAC fighter requirement.

Republic had also received contracts in September 1939 for limited production of the P-43 Lancer. This aircraft had good high-altitude performance, but it was deemed to be inferior overall to European fighter types such as the Spitfire and Bf 109E.

Kartveli, meanwhile, had a new fighter project on the drawing board called the AP-10, which was a relatively lightweight machine designed around a 1,150hp Allison V-1710-39 liquid-cooled V12 inline engine and armed with two 0.50-cal machine guns in the nose. The Allison was more powerful and less expensive than the air-cooled Pratt & Whitney R-1830 radial that had powered the Seversky pursuits, and in 1939 the Curtiss XP-40, with its mechanically supercharged Allison V-1710-19 inline engine, had relegated the Seversky pursuits to also-rans.

However, the estimated performance of the AP-10, designated the XP-47 (armed with two 0.50-cal machine guns in the nose and four 0.30-cal weapons in the wings)

Forerunner of the P-47, the Republic P-43 Lancer boasted a Pratt & Whitney R-1830-35 and a mid-fuselage-mounted B-2 turbo-supercharger. This particular aircraft is a P-43A-1 originally built as part of a Lend-Lease purchase for the Republic of China Air Force but retained by the USAAC. It was powered by a 1,200hp R-1830-49 engine. (Philip Jarrett Collection)

and lightweight XP-47A (two nose guns only) by the USAAC, did not meet with official approval. Kartveli duly abandoned his inline-engined designs so that he could concentrate all of Republic's resources on the development of a radically different fighter aircraft.

The most powerful engine then available was the huge 2,000hp Pratt & Whitney R-2800-21 18-cylinder two-row radial. Adapting this massive engine to power a fighter required a great feat of engineering, but Kartveli and his team knew that without it, their design could not possibly meet the performance and load-carrying demands required of the new fighter by the USAAC. A four-bladed 12ft diameter propeller had to be used to harness the power created by the R-2800, and Kartveli produced an efficient supercharging duct system that offered the least interrupted airflow using the unorthodox method of designing this feature first and then building up the fuselage around it.

The engine's huge turbosupercharger was stowed internally in the rear fuselage, with the large intake for the air duct mounted under the engine, together with the oil coolers. Exhaust gases were piped back separately from the engine to the turbosupercharger and expelled through a waste gate in the bottom of the fuselage, with ducted air fed to the centrifugal impeller and returned under pressure via an intercooler to the engine.

Kartveli designed a telescopic undercarriage that was nine inches shorter when retracted than when extended so as to make room for the wing installation of no fewer than eight 0.50-cal machine guns and ammunition, which when fired imposed immense loads and stresses on the aircraft that had to be taken into consideration. Last, but not least, the great quantities of fuel necessary to power the 12,086lb beast required internal tanks to hold 307 US gallons of fuel.

The XP-47B Thunderbolt prototype was larger than all previous fighters by a substantial margin. Indeed, it was more than twice the weight of most of its contemporaries, yet the powerful radial engine enabled it to reach a maximum speed of 412mph shortly after making its maiden flight on May 6, 1941. Production

OPPOSITE

All 171 P-47Bs built by Republic (between May and September 1942) were deemed "unsuitable for combat operations" and assigned to train such units as the 56th FG while it awaited delivery of the improved P-47C-1-RE. (NARA)

What started life as the Seversky AP-10 eventually evolved into the Republic XP-47 in 1941 following the fitment of the new turbo-supercharged Pratt & Whitney R-2800 engine. This aircraft is the XP-47B, which closely resembled the production-standard Thunderbolt that would soon follow. (Philip Jarrett Collection)

difficulties and numerous technical problems followed, hindering the development of the Thunderbolt. Indeed, the first of 171 P-47Bs was not being delivered to the USAAC until March 1942. A further three months would pass until the 56th FG was issued with the first examples to reach a frontline unit.

From September 1942 production switched to the P-47C, some 602 examples eventually being built. This variant differed from the B-model in having a slightly lengthened (by 10.5in) forward fuselage, a new engine mounting, changes to the rudder and elevator balance system to improve agility and the ability to carry a 200gal ventral drop tank. The P-47C-1 had fixed deflection plates fitted between the oil

P-47D-4 THUNDERBOLT

cooler shutters and the exhaust waste gates and detail changes were made to the electrical system, undercarriage and brakes, and a hydraulic flap equalizer was added. The C-2 was identical to the C-1, with the exception of an attachment point being added to the belly of the aircraft for carrying the 200gal drop tank, as well as the provision of metal-covered elevators and rudder.

All early-build P-47s were fitted with the Mk VIII reflector gunsight, as well as a simple ring-and-post sight, as standard. The factory-installed rearview mirror above the windscreen framing was generally considered inadequate for a pilot to see behind him in combat, so P-47 units tried various mirror arrangements. It was not uncommon for some fighters to have three mirrors, with additional ones fitted to the sides of the windscreen framing. Others sported two large Spitfire-type mirrors fixed to the top of the windscreen framing.

The P-47D-1, of which 114 were built from December 1942, was the first Thunderbolt model produced at the company's new Evansville, Indiana, plant. It differed little from previous models except for the standardization of water injection into the intake manifold to produce more prolonged combat power of 2,300hp at 27,000ft. Other changes included additional armor protection for the pilot, further improvements to the fuel and oxygen system, and the exhaust ducting was again modified for improved reliability and performance. The 114 P-47D-RAs from Evansville were identical to Farmingdale-built P-47C-2-REs. P-47D-1-REs differed from earlier versions in having an additional pair of cooling flaps on the engine cowl to vastly improve cooling of the R-2800-21 engine, which had previously suffered from cylinder head overheating.

Paddle-bladed propellers of increased diameter were fitted to the D-models as standard, and these helped absorb the full war emergency power of the R-2800-59 engine. The propellers, when combined with the newly introduced water injection equipment that boosted the engine's performance for short intervals, gave the P-47D a dramatic improvement in its rate of climb by around 600ft per minute. The D-model's top speed of 433mph at 30,000ft and its formidable performance in the dive made the aircraft a fierce opponent.

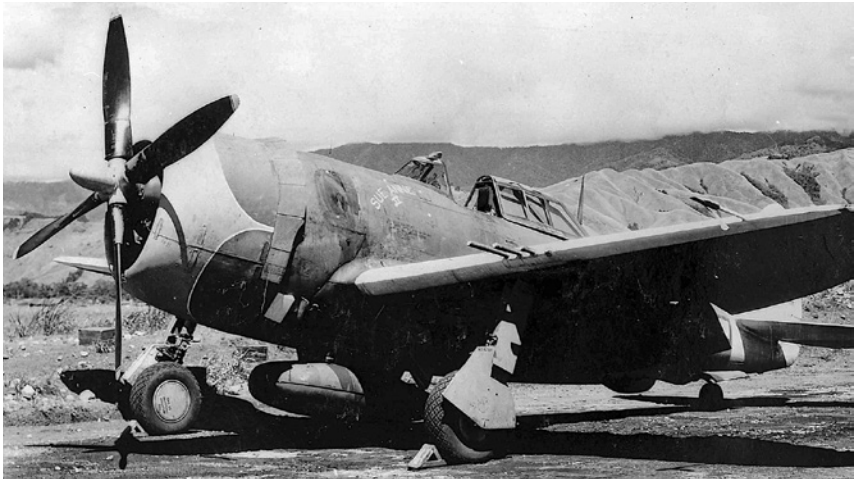
For the fighter-bomber role, the aircraft's "universal" wing and underbelly mountings permitted various combinations of up to 2,500lb of bombs, two 150gal tanks and one 75gal tank and, later, rocket projectiles in a tube cluster to be carried. A full bomb load meant that ammunition for each of the eight 0.50-cal machine guns was reduced from 425 to 267 rounds, but the firepower remained undiminished.

During strafing attacks, the weight of the bomb load and drop tanks added to that of the aircraft resulted in a terrific increase in speed when diving. This could cause a surge or vapor lock in the fuel lines, and the fuel pump was unable to meet the "G" loads imposed, resulting in a number of P-47s suffering engine failure over enemy territory. The P-47D-15 was the first Thunderbolt built with underwing pylons and fuel system plumbing within the wings to allow the aircraft to fly with expendable fuel tanks. Internal fuel capacity was increased to 375gal and bomb load to 2,500lb. The canopy was completely jettisonable too.

The "razorback" P-47D was built in numerous sub-variants ranging from the D-1 up to the D-24, and these primarily differed from one another in respect to their engine specification and wing weapon/plumbing fit.

OPPOSITE

P-47D-4 42-22687 was assigned to 1Lt James Harris of the 9th FS/49th FG at Gusap in January 1944. The unnamed fighter boasted a female figure in a red dress beneath the cockpit, the artwork being applied by crew chief TSgt W. E. White. The Thunderbolt also featured four victory flags above the artwork, these representing four kills Harris had previously achieved in the P-38. When the 9th FS was re-equipped with Lightnings, 42-22687 was transferred to the Combat Replacement Training Center at Nadzab airfield. It went missing on April 29, 1944 while being flown by 1Lt Marion Lutes, the aircraft crashing at an elevation of 8,200ft in the Finesterre Range near Nadzab. In 2004 the wreckage was recovered by helicopter, and the fighter is presently in Australia undergoing restoration to airworthiness.



P-47D-3 42-22626 of the 41st FS/35th FG at Gusap in March 1944, the fighter having a 200gal "Brisbane" tank attached to its centerline pylon. Delivered to the Fifth Air Force in November 1943 and reassembled in Melbourne, the aircraft was issued to 1Lt Erick W. Kyro as a replacement for his P-39N when the 35th FG swapped its Airacobras for Thunderbolts.
(Author's Collection)

P-47D-2s, D-3s, D-4s and D-11s all saw action against IJAAF Ki-43-IIs over New Guinea in 1943–44. More than three times the weight of a fully loaded "Oscar" when fueled and armed, the Thunderbolt was therefore harder to maneuver in aerial combat. Groups equipped with the aircraft duly devised tactics that would play to the strengths of the Republic fighter, which had quickly gained the nickname "Jug" from its resemblance to the iconic whisky jug of the prohibition era (the word "jug" continues to be misrepresented to this day in respect to the P-47 as a misnomer for "juggernaut").

The Thunderbolt's lack of maneuverability meant it was easily out-turned by the Ki-43-II. However, with the advantage of height it was uncatchable in a dive – indeed, it could out-dive most fighters, both Allied and Axis, allowing pilots to employ "dive-and-zoom" ambush tactics wherever possible. This would become a key consideration, and strategy, for P-47-equipped fighter groups when they deployed to New Guinea.

At the opposite end of the performance spectrum, the Republic fighter proved vulnerable to the appreciably more agile "Oscar" when Thunderbolt pilots found themselves in a low-energy state while pulling up from a dive or when trying to dogfight with the Ki-43-II. The big fighter then became an easy target for a skilled IJAAF pilot, who could lead his guns at short range into a large target.

The first batch of Thunderbolts (85 P-47D-2s) arrived in Queensland as hold and deck cargo on board merchant vessels on June 27, 1943, the fighters being unloaded from Brisbane's wharf and then trucked to RAAF Amberley for assembly. Additional D-2s, D-3s, D-4s and D-11s arrived in growing numbers into 1944 to the point where the Thunderbolt comprised almost half of V Fighter Command's overall frontline strength during the early months of that same year. This had come about because of the paucity of P-38s to make good the losses suffered by the Lightning-equipped groups during the massive aerial assault on Rabaul in November 1943.

NAKAJIMA Ki-43 "OSCAR"

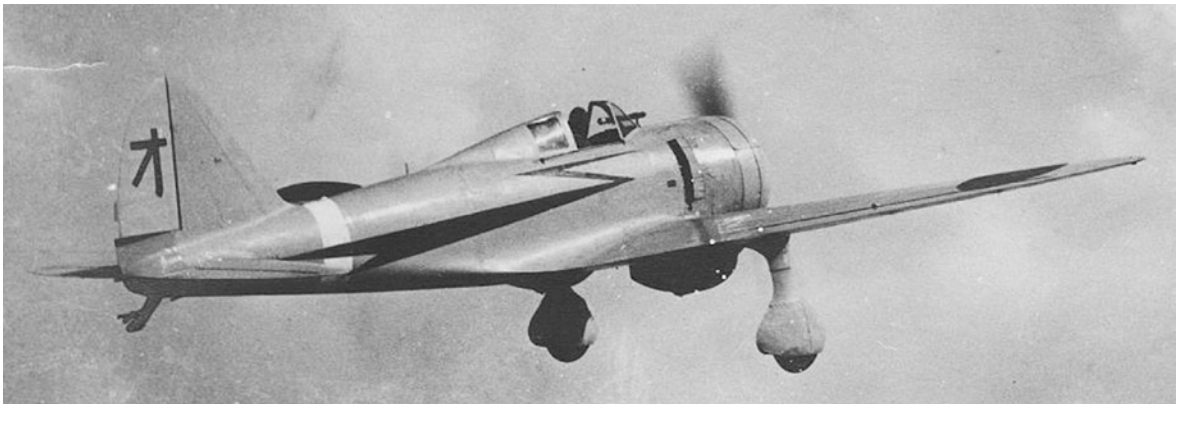
In 1936, Nakajima Hikoki KK (Nakajima Aircraft Company Ltd), one of Japan's principal manufacturers of military aircraft, created an innovative machine in the form of the experimental Nakajima Ki-12. Based on a thorough study of the French Dewoitine D.510 fighter, which the Mitsubishi Company had imported into Japan for the IJAAF

and IJNAF to evaluate, the Ki-12 pointed toward the future of fighter development. The Nakajima aircraft featured an inline 690hp Hispano 12Xcrs engine, a 20mm cannon, retractable landing gear and two 7.7mm machine guns in the wings. The K-12 presented the IJAAF with one design path, but it failed on the more traditional criteria that the latter deemed most important – maneuverability. The Ki-12's sister airplane, the Ki-27, was chosen instead by the IJAAF as its next fighter, the supremely agile machine being ordered into production in late 1937 as the Type 97 Fighter.

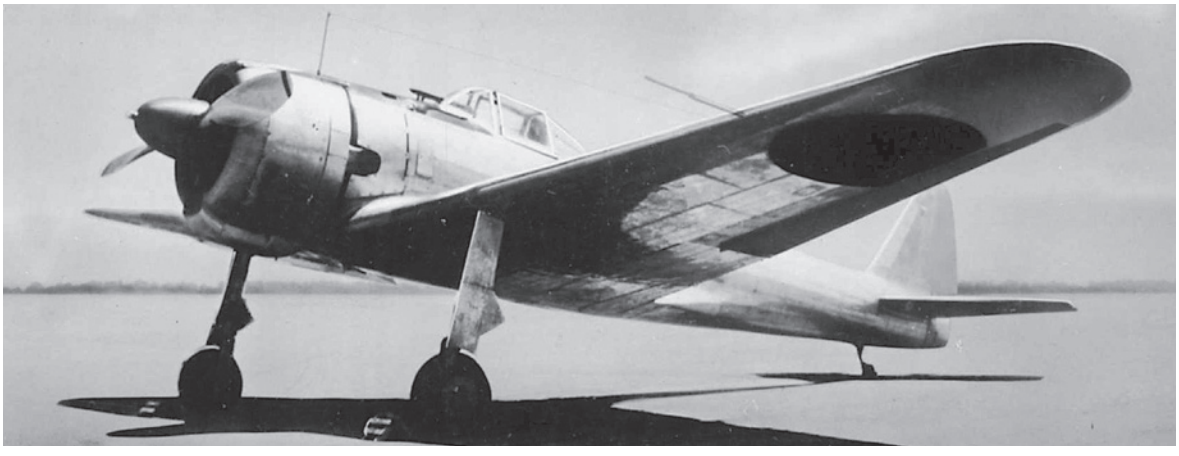
The brainchild of Nakajima engineers Hideo Itokawa and Yasumi Koyama, the design philosophy behind the nimble all-metal monoplane with a radial engine, fixed landing gear and two 7.7mm machine guns was to match the smallest practical airframe with Nakajima's state-of-the-art Ha-1-Ko nine-cylinder 650hp radial engine. Exceptionally low wing loading made the Ki-27 more maneuverable than its competitors, and ten pre-production aircraft trialed the type successfully. A substantive order was placed for a Ki-27-Ko equipped with the more powerful Ha-I-Otsu engine and a variable-pitch propeller. Within weeks of entering service in March 1938, the type attained fame in Japan when Capt Tateo Kato claimed three Polikarpov I-15 fighters shot down over northern China.

The Ki-27's early success in combat did nothing to dissuade the IJAAF from its steadfast belief in the primacy of maneuverability for fighter aircraft. Thus, when the Koku Hombu approached Nakajima to begin work on the Ki-27's replacement in January 1938, just a month after the Type 97 had been ordered into production, the basic requirement was for a fighter that would be just as maneuverable, and with only marginal improvements in its rate of climb, top speed and range. Repeating their proven design philosophy, Koyama and Itokawa married the new airframe to the larger 14-cylinder Nakajima Ha-25. The resultant Ki-43 also had a retractable undercarriage, which many pilots initially viewed as a luxury.

Around the time that Nakajima commenced work on its new fighter, the IJAAF was searching for a medium-caliber aircraft gun, and apparently tested the Italian Breda-SAFAT 12.7mm machine gun. It found the Breda's 12.7 x 81SR cartridge impressive, especially the high-explosive incendiary version, and tried to adapt the weapon, but without success. Instead, in a remarkable piece of engineering, the IJAAF adapted the US Model 1921 Browning M2 0.50-cal aerial machine gun in a scaled-down version to take the Italian-designed cartridge as the Army Type 1 12.7mm Fixed



The Ki-27 was the predecessor of the Ki-43, and this particular example bears the black fuselage bolt of the 59th Sentai's 2nd chutai. Note the Ki-27's telescopic gunsight, which was eventually replaced by an optical one in the Ki-43-II – the Mk I retained a telescopic sight.
(Dr. Yasuho Izawa Collection)



A heavily retouched photograph of the Ki-43-I Hayabusa (Peregrine Falcon) prototype in 1939. (Edward M. Young Collection)

OPPOSITE

The pride of Capt Shigeo Nango, this "Oscar" bore the construction number 6010, which meant that it was a Ki-43-II "naka ki" built midway through the fighter's construction run. One of 25 new airframes that arrived at But from Manila on November 1, 1943, it received blue fuselage command stripes to signify Nango's headquarters assignment. With the fighter being maintained by the 59th Sentai's 2nd chutai, the latter's slanted red tail and horizontal tailplane stripes were retained. The resulting mix of chutai and headquarters colors on the same airframe was rarely seen in New Guinea. Nango was at the controls of this fighter when he was shot down on January 23, 1944, probably by a P-40N from the 49th FG. Despite a widespread search by the 59th Sentai, no trace of Nango or his "Oscar" was ever found.

Machine Cannon (Ho-103). The fact that several pre-production Ki-43s were tested with an armament of two Ho-103s and the first production models were designed and fitted to take the weapon seems a good indication of the Koku Hombu's intentions.

Upgrading its new fighter to the heavier caliber machine gun was a partial, if still somewhat conservative, response to the changing armament needs of modern fighter aircraft. In the context of 1938, when Nakajima was beginning work on the Ki-43 design, it was not an unreasonable approach. In weight of fire, two 12.7mm machine guns were approximately equal to four 7.7mm weapons, enabling Nakajima to avoid the necessity of adding weight and complexity to its design by incorporating wing guns.

Meanwhile, the Ki-43 prototype was rolled out on December 12, 1938, and early flight testing at Tachikawa revealed that it lacked its predecessor's responsiveness and maneuverability. Furthermore, the fighter was only slightly faster than the Ki-27 due to its heavier weight, and its retractable gear was unreliable. When the IJAAF threatened to cancel the contract for the Ki-43, Nakajima's designers lightened the airframe by reducing its cross-section and altering the aft section and tail surfaces. An all-around-vision canopy was also introduced. Perhaps the most important change in the redesigned Ki-43 was the addition of the so-called "butterfly" combat flap. This Fowler-type flap could be deployed to increase lift, giving the fighter a dramatically tighter turning radius.

Ten pre-production Ki-43s went into flight testing, and this time the IJAAF evaluators were greatly impressed with the improvements. It was found that the Ki-43 now could be looped and "Immelmanned" at speeds of 168mph or slower, stall recovery and acceleration from low airspeeds were excellent and the "butterfly" flaps produced an astounding rate of turn. What the testing did not discover was that Nakajima's efforts to lighten the wing structure had also weakened it, making the wing vulnerable to structural failure in high-G combat maneuvers. Nevertheless, the IJAAF remained fixated with the fighter's high rate of turn.

Much to the relief of Nakajima, on January 9, 1941 the IJAAF finally approved production of the Ki-43 as the Type 1 Fighter Model 1-Ko. The Nakajima factory at Ota duly delivered the first production airframe in June 1941. Meanwhile, Ki-27s kept rolling off the company production line until November 1942.

The 59th Sentai was the first air regiment to be assigned the Ki-43, then stationed at Hankow in central China. In early June 1941 pilots from the 1st and 2nd chutai

Ki-43-II "OSCAR"

The Ki-43-I was the first model of the "Oscar" to see combat, having entered service shortly before the outbreak of the Greater East Asia War. In the spring of 1942, the 50th Sentai returned to Japan from Burma to exchange its Ki-27s for Ki-43-Is. This photograph shows the sentai practicing formation flying over Tokorozawa airfield in June 1942, prior to the unit returning to Burma. (Edward M. Young Collection)

attended conversion courses at the IJAAF proving ground at Tachikawa, returning to Hankow three months later. Meanwhile, the 64th Sentai, then based in Canton, south China, also sent pilots to Tachikawa to start conversion training in late August 1941. Several fatal accidents occurred during the summer and early fall due to structural failure. Then, during a gunnery exercise at Hankow on October 7, 1941, 1Lt Sukeichiro Ito was killed when a wing failed. Inspection of another 59th Sentai Ki-43 flown by future ace WO Hiroshi Onozaki revealed buckles along the wing root. Nakajima immediately sent a technical team to Hankow to reinforce all main spars using riveted bulbous extrusion, after which the Ki-43s were returned to Tachikawa for further wing modifications starting in mid-October. The 59th subsequently completed a move to Kampong Trach, in Indochina (modern-day Cambodia), by December 7, from where it commenced combat operations with 21 Ki-43-Is and three Ki-27s.

Meanwhile, the 64th Sentai had also relocated to Indochina (Duong Dong in Vietnam) with 35 Ki-43-Is and six Ki-27s. Although its respected commander Maj Tateo Kato was initially critical of the Ki-43, he nevertheless tried to improve the type and adapt it for combat – Kato had little choice other than to make it work. His sentai eventually became the IJAAF's most successful "Oscar" unit in terms of aerial victories.

From the outset of production, both Nakajima and the IJAAF viewed the Ki-43-I as an interim version of the fighter. Design work on its replacement, the Ki-43-II, had begun shortly after the prototype had flown in late 1938, and in February 1942 the first prototype Model II left Nakajima's experimental workshop at Ora.

Although looking outwardly similar to the Ki-43-I, the new fighter was immediately recognizable thanks to its three-bladed propeller driven by the more powerful 1,130hp Nakajima Ha-115 radial engine. The substantially upgraded Model II featured an optical gunsight to replace the telescopic one in the Model I, 13mm cockpit armor protection, rerouted air intakes, and more robust wings with reduced wingspan. A reshaped canopy yielded improved visibility and the fortified wings had hard-points to mount bombs or external fuel tanks. Armament comprised two Ho-103 Type 1 machine guns, with 250 rounds of 12.7mm ammunition per weapon. Flight testing indicated superior performance to the Model I, and in November 1942 the first production Ki-43-IIs were delivered to operational units. The last Model I was completed three months later.

During Model II production myriad other smaller modifications were made. The adopted IJAAF suffix designations pertaining to army aircraft have mostly been misrepresented in technical English. The Ko, Otsu and Hei suffixes so often defined as a, b and c in English are really a post-war expediency, as when applied to airframes these usually defined armament variations. However, all Model IIs were fitted with the same two Ho-103 machine guns throughout the aircraft's production life, with the only known exception being the first batch of 63rd Sentai Ki-43-IIs that arrived in

New Guinea in early 1944. Although equipped with experimental 12.7mm machine guns, they carried no special designation because of it.

Most alterations within the Model II series were made to systems, engine and airframe. Technical Japanese divides these modifications into early, mid, late and final production types, with the Model II kai being the final variant. All definitions involve the kanji character ki, which translates as "period" but has been commonly translated as "production." Thus, hatsu ki defines the first production period (with round oil cooler and original Model I wingspan), the naka ki or middle period produced a larger cowling scoop and shortened wingspan, those in the nachi ki or later period had rearwards-facing exhausts and a port wing landing light, and the matsu ki or final period saw aircraft fitted with individual exhaust stacks (no matsu ki served in New Guinea). Unfortunately, the official IJAAF table of aircraft designations and armament does not date these changes, nor sequence them by constructor's number.

The first "Oscars" to arrive in New Guinea were part of the 12th Hikodan, being assigned to the 1st and 11th Sentai. Both were equipped with hand-me-down Ki-43-Is previously flown by units in Southeast Asia. Some 57 Model Is for the 11th Sentai were shipped from Soerabaya, in the Dutch East Indies, to Truk, from where they were flown to Rabaul on December 18, 1942. The 1st Sentai followed a month later with 59 Ki-43-Is. Most of these fighters were equipped with at least one 12.7mm weapon.

When the 1st Sentai left Wewak (and New Guinea for good) in August 1943 the unit turned over its last remaining 17 Model Is to the 13th Sentai. During an interception near Wewak on September 13, 1943, the 13th scrambled nine fighters, including several Ki-43-Is. Although these were equipped with single 12.7mm and one 7.7mm machine guns, the Model Is could replace the 7.7mm gun with a second 12.7mm weapon without any requirement for airframe modification.

Ki-43-IIs warm up at the Akeno Flying School. Several former New Guinea fighter pilots were transferred here as instructors, including the 248th Sentai's 1Lt Hitoshi Asano, who had been wounded at Alexishafen on November 25, 1943. (Dr. Yusuho Izawa Collection)

TECHNICAL SPECIFICATIONS

P-47D THUNDERBOLT

P-47D-1 through D-11

The D-1-RA (114 built) was the first P-47 model to emerge from the new Evansville, Indiana, plant from December 1942 – RA was the Evansville factory designation. It was essentially similar to the P-47C-5. The D-1-RE (105 built) had additional cowling flaps, improved pilot armor and a new radio mast – 105 were built at Farmingdale. The D-2-RA (200 built) was similar to the D-1-RE, as was the D-2-RE (445 built), which also featured minor upgrades to the fuel system. Some 100 D-3-RAs were then built, and these were similar to the D-2-RE. The D-5-RE (300 built) was based on the D-1-RE, but with modifications to the aircraft's fuel and hydraulic systems. The D-4-RA (200 built) was similar to the D-5-RE. The D-6-RE (350 built) was effectively a

High-pressure hoses are used to remove Cosmoline inhibitor from a recently arrived P-47D at the 27th Air Depot's Seven-Mile Drome base after the brand new fighter was shipped from Brisbane to Port Moresby in January 1944. (Author's Collection)

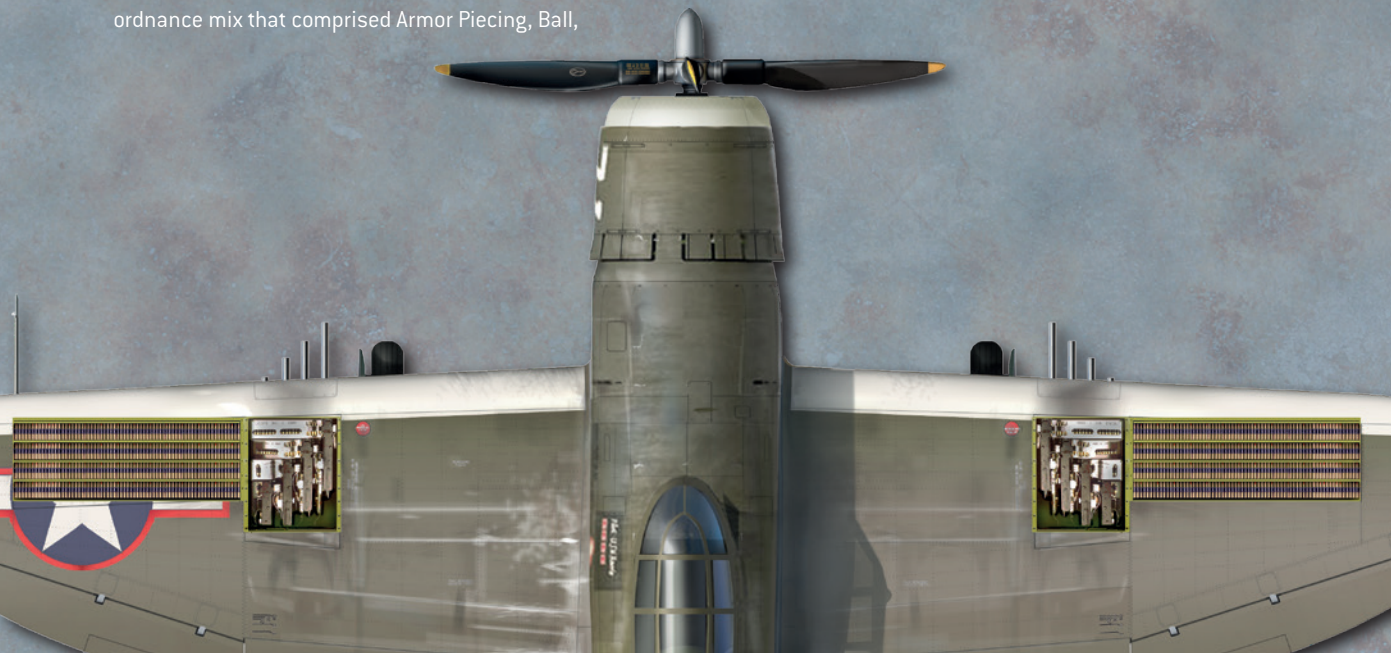
D-1-RE with two-point shackles for a bomb or a drop tank under the fuselage. The D-10-RE (250 built) was also based on the D-1-RE, but with further improvements to the hydraulic system and the fitment of a General Electric C-23 turbosupercharger. The D-11-RE (400 built) was fitted with a 2,300hp R-2800-63 engine that featured water injection, as was the identical Evansville D-11-RA (250 built).

As noted in the previous chapter, the first batch of Thunderbolts to arrive in Australia on June 27, 1943 were unloaded at Brisbane's wharf and then trucked to RAAF Amberley for assembly. These aircraft consisted of 85 P-47D-2-RAs, which had been supplied without external fuel tanks. USAAF Materiel Command had omitted them because it was concerned that the 200gal tank designed in the US was causing the Thunderbolt to experience severe tail buffeting when attached. An interim solution soon adopted at Port Moresby was the fitment of customized Airacobra tanks. In July 1943 the 27th Air Deport at Seven-Mile Drome designed a replacement tank, producing a practical 200gal tank that was successfully trialed at Eagle Farm near Brisbane – it was dubbed the "Brisbane" tank in frontline service.

"Razorback" P-47Ds are assembled at Republic's huge Evansville plant in Indiana in early 1944. The D-model was the first Thunderbolt variant constructed in this brand new factory. (Author's Collection)

P-47D THUNDERBOLT ARMAMENT

The Thunderbolt was equipped with eight wing-mounted 0.50-cal M2 Browning machine guns that could achieve a rate of fire of up to 850 rounds per minute. In New Guinea, the wing magazines contained 425 shells per gun in an ordnance mix that comprised Armor Piecing, Ball, Incendiary and Tracer rounds. Spent cases and steel links were ejected from the bottom of the wing through square, staggered, apertures. IJAAF pilots in their lightly armored Ki-43s rightly feared the Thunderbolt's heavy firepower.



2Lt John Frost of the 39th FS/35th FG poses with his mount at Nadzab in January 1944. The fighter is carrying a somewhat dented 200gal "Brisbane" tank – an essential external store for P-47Ds flying from airfields around Port Moresby in 1943–44. (Author's Collection)

Normal climb was made at 2,550rpm with 42in. of boost of manifold pressure. Thunderbolts would cruise to Wewak at 220mph, and jettisoning the drop tank would improve the airspeed by 6mph. For take-offs in New Guinea's warm air, 15 degrees of flap was the norm, especially if the fighter was heavy with ordnance and fuel. For maximum range to get home after combat, external tanks were dropped and, where practical, excess ammunition was fired to reduce weight. For the first few weeks of training following the 348th FG's arrival at Port Moresby, Thunderbolt pilots were blowing four tailwheels per day on average when landing on the Marston matting metal surface. Henceforth, aviators were instructed to make two-wheeled landings to reduce the load on the tailwheel, and this resolved the problem.

Ki-43 "OSCAR"

Ki-43-II

Five prototypes of this first major improvement to the "Oscar" were delivered to the IJAAF from February 1942, and by October of that year the new model was in full production as the Ki-43-IIa. Further modifications to the wing cured it of the tendency to collapse under high loading, shortening the span by 23.6in. and increasing the load-carrying capacity of the wing racks. The fighter was fitted with the more powerful 1,130hp Nakajima Ha-115 radial engine (which also used a two-speed supercharger) driving a three-bladed metal propeller. The engine was housed in a new cowling that was longer in chord, bigger in diameter and featured an air intake for the supercharger in the upper lip. Other improvements included a slightly taller windscreen and canopy, a more effective reflector gunsight, armor plating to protect the pilot and a rubber coating to protect the fuel tanks. An oil cooler was fitted under the fuselage at the rear of the cowling. The armament and Type 96 Hi-3 radio were unchanged from the previous model.

Various minor modifications incorporated during the production run of the Ki-43-IIa were standardized in the Ki-43-IIb, and deliveries began during the summer of 1943. Other changes included a deeper "honeycomb" oil cooler under the cowling, a revised air intake for the carburetor and an auxiliary cooler intake beneath the fuselage. Later, the hard-points under the wing were moved outboard of the landing gear to prevent bombs from striking the propeller during diving attacks. A further development, designated the Ki-43-IIc (also called Ki-43-II KAI), introduced ejector exhaust stubs that gave the engine a slight boost in horsepower.

All "Oscars" spun easily after a slow stall, and could develop tail flutter in a fast dive. Parachutes were carried for combat missions in New Guinea, as the chance of returning to duty after bailing out was high. The parachutes were placed on the seat by groundcrew then strapped on before take-off. Although the guns had to be charged prior to take-off, the selector switch on the control column also needed activating before combat, and pilots sometimes forgot to do this in the heat of battle. Oxygen

regulators were set to automatically activate between 10,000 and 12,000ft.

Extra wing drop tanks carried around 200 liters each. Both metal and wooden types were used, with tanks made from veneer wood being more common in New Guinea. The switch for the combat flaps was located on top of the control column, although many pilots chose not to use them in combat as they regarded the "Oscar" as already sufficiently maneuverable. The flaps were more often used during take-off if the fighter was heavily loaded. Due to its strengthened and shorter wings, the Model II could dive at a higher speed (380mph) than the original Ki-43-I (340mph).

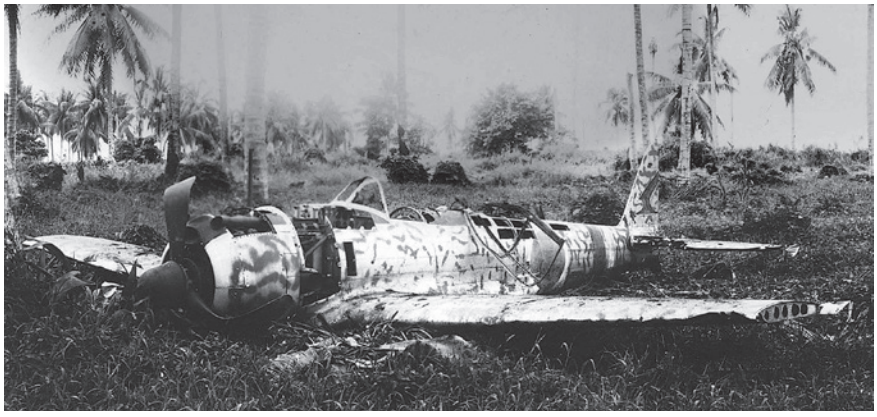
The Ki-43-II's 200-liter drop tank could be carried singly (as seen here) or under both wings. Both metal and wooden types were used, with tanks constructed from veneer wood being the most common type found in New Guinea. (Author's Collection)

The Type 2 Ta-Dan aerial bomb was sometimes used by Wewak's Ki-43 units, this weapon comprising packaged 40mm hollow-charge streamlined incendiary/fragmentation bomblets each weighing one-third of a kilogram. These were released over bomber formations in containers, each packed with 30 bomblets. "Oscar" pilots claimed several Allied fighters (including Thunderbolts) and bombers with aerial bombs, stating that they were particularly effective against closed formations. However, their success appears to have been exceedingly limited. The most celebrated use of ta-dan occurred on February 14–15, 1944 when, on two successive missions, 59th Sentai ace WO Katzuo Shimizu claimed three B-25s and two P-47s destroyed. Allied records, however, contain no such losses to aerial bombs.

P-47D-2 and Ki-43-II Comparison Specifications

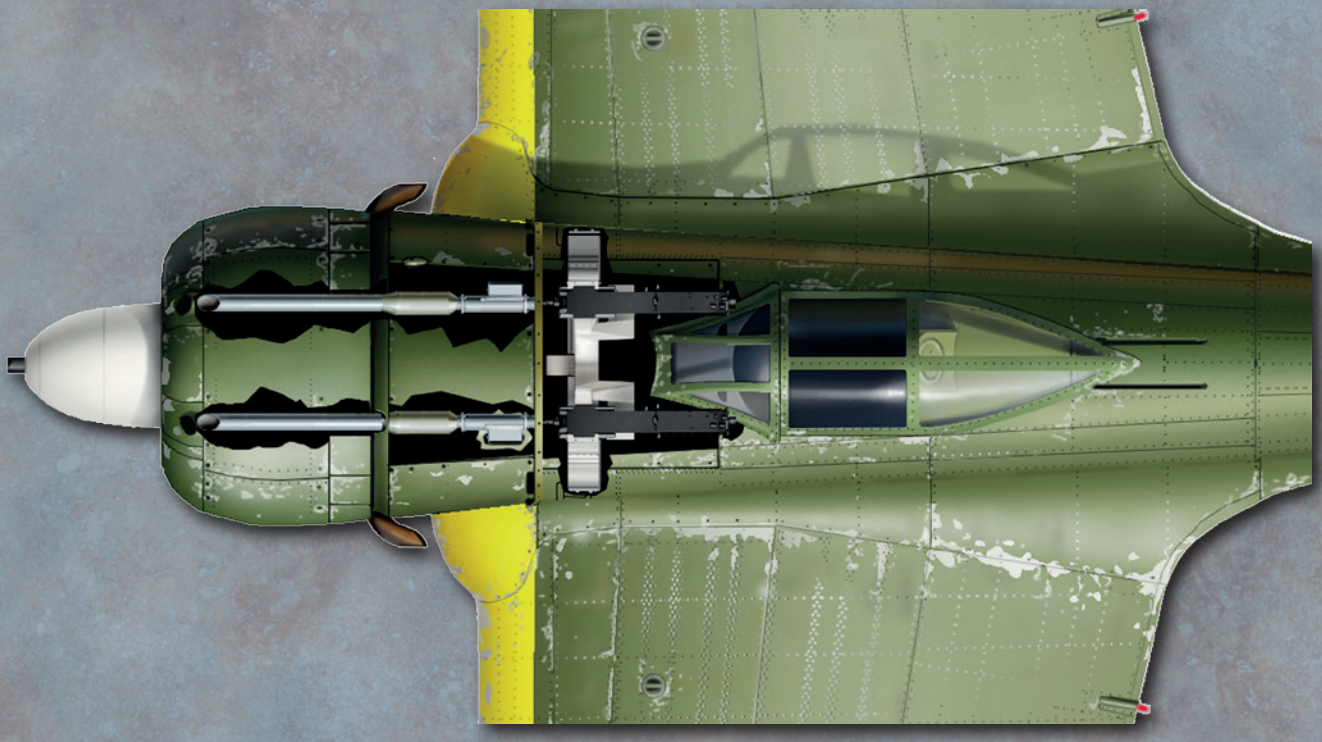
	P-47D-2 Thunderbolt	Ki-43-II "Oscar"
Powerplant	2,000hp Pratt & Whitney R-2800-21	1,130hp Nakajima Ha-115
Dimensions		
Span	40ft 9in	35ft 6.75in
Length	36ft 1in	29ft 3.25in
Height	14ft 2in	10ft 8.75in
Wing area	300sq. ft	230.37sq. ft
Weights		
Empty	9,900lb	3,812lb
Loaded	14,925lb	4,891lb
Performance		
Max Speed	433mph at 30,000ft	329mph at 13,125ft
Range	800 miles (with centerline drop tank)	1,006 miles
Climb	to 20,000ft in 11 min 0 sec	to 19,685ft in 6 min 35 sec
Service Ceiling	42,000ft	36,794ft
Armament	8 x 0.50-cal M2 Browning machine guns	2 x 12.7mm Ho-103 Type 1 machine guns

A shotaicho Ki-43-II from the headquarters detachment of the 24th Sentai was found in this crash-landed state at Dagua when the airfield was captured by the Australian Army in March 1945 – it was one of 55 wrecked "Oscars" that littered the overgrown base. Bearing the constructor's number 2839, the aircraft was among the first batch of Ki-43-IIs to arrive in New Guinea in May 1943. (Author's Collection)



Ki-43-II ARMAMENT

The Ki-43-II was armed with two Ho-103 Type 1 12.7mm machine guns mounted forward of the cockpit and synchronized to fire through the three-bladed propeller. Each weapon had a magazine containing 250 rounds. In New Guinea, the Model II retained the standard Ho-103 throughout the war, although the first batch of Ki-43-IIs that equipped the 63rd Sentai when it arrived in-theater in early 1944 was equipped with experimental 12.7mm machine guns, the technical details of which are elusive. The gun stocks protruded back either side of the instrument panel, and the weapon was similar in design to the Browning M2 machine gun. Spent shells and steel links were ejected through reinforced round apertures on either side of the upper forward fuselage.



THE STRATEGIC SITUATION

By November 1942 the early string of victories enjoyed by the Japanese following the Pearl Harbor attack had come to a resounding end. The Battle of Midway on June 2 had seen the IJN lose four carriers, and by September 20 the IJA had withdrawn its troops from the ranges north of Port Moresby. Finally, on November 13–14, an attempt to land new army units on Guadalcanal, in the Solomon Islands, had ended in failure when the invasion convoy was decimated by the "Cactus Air Force."

The worsening situation in the Southwest Pacific had prompted the IJNAF to request that the IJAAF reinforce its air effort in the Solomons and New Guinea area – both theaters previously the domain of IJNAF units. The IJAAF immediately dismissed the request, being of the strong view that its air assets should remain focused on operations in and around China. While no extant agreement was then in place, the IJAAF's doctrines and strategy were all based upon this premise. The IJAAF also recognized that it was ill-prepared for deployment to an area as vast as the Pacific.

The IJAAF eventually agreed to commit limited air power to the theater, with the first unit to arrive in New Guinea being the 76th Dokuritsu Dai Chutai (Independent Squadron). Equipped with twin-engined

IJAAF groundcrew pose at an airfield in the Wewak area shortly after their arrival in northern New Guinea in the summer of 1943. Behind them is a mottle-camouflaged Kawasaki Ki-56 "Thalia" transport, this aircraft being derived from the Lockheed Model 14. Thousands of groundcrew were left to their fate when the IJAAF abandoned its defense of northern New Guinea in the face of Allied advances from the spring of 1944. (Author's Collection)

OPPOSITE
The main airfields used by the IJAAF (red dots) and the USAAF (blue dots) in northern New Guinea from mid to late 1943 are marked on this map. Although a coastal road connected all the Japanese airfields, it was often difficult to maintain during rainy periods. A lack of quality construction machinery exacerbated drainage problems, not to mention damage to runways caused by constant Allied bombing. USAAF airfields in New Guinea in late 1943 were far more advanced than their Japanese counterparts. With primitive facilities in comparison to those in the European Theater of Operations, most were nonetheless sealed, permitting all-weather operations. By early 1944 Nadzab boasted a complex of five separate interconnected runways.

Mitsubishi Ki-46-II "Dinah" reconnaissance aircraft, it reached Rapopo (Rabaul) from the Philippines in September 1942. The 83rd Independent Chutai soon followed, equipped with Mitsubishi Ki-51 "Sonias." As part of these two units' duties, they were to ascertain the suitability of the theater for future IJAAF deployments.

An IJAAF–IJNAF Central Agreement on operations in New Guinea, New Britain and the Solomons was ratified on November 18, 1942, temporarily committing the 6th Hikodan to the theater. On January 3, 1943 a follow-up agreement designated geographic areas of responsibility, and thereafter the IJAAF became almost solely responsible for New Guinea, its primary roles being to support ground forces, fly combat air patrols and escort merchantmen.

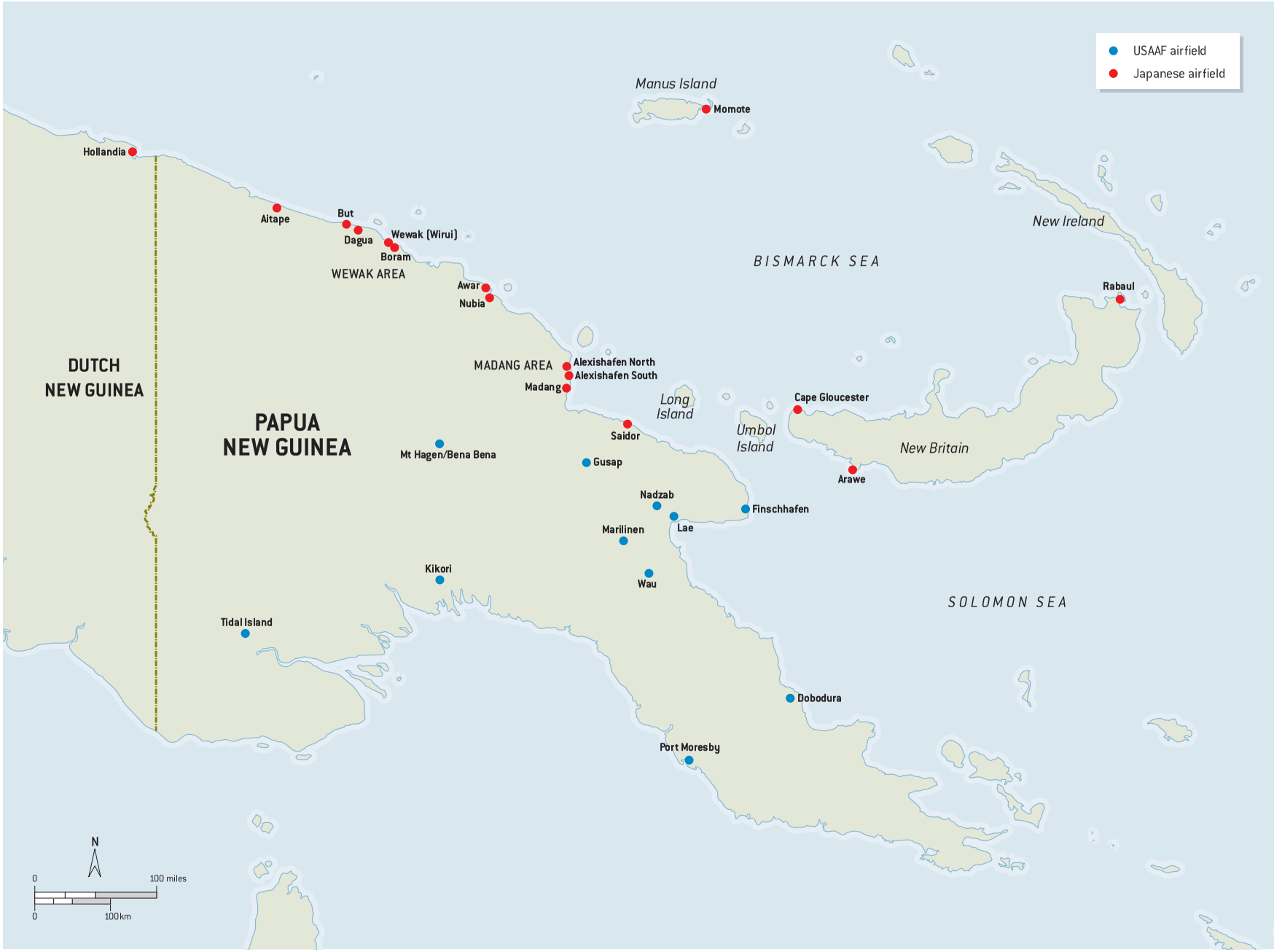
By then air combat in the Southwest Pacific had evolved to the point where the objective of every major military offensive was to seize or neutralize an air base. Without control of the air, keeping such bases supplied became virtually impossible as everything had to be either shipped or flown in. Keeping lines of communication open was also vitally important, particularly for the Japanese.

IJAAF command was fully aware that the Allies would likely attain air superiority throughout 1943. Indeed, having stemmed the Japanese advance in-theater during the second half of 1942 with first-generation fighters such as the P-39 and P-40, the USAAF was now increasing its strength in New Guinea, ready to go on the offensive with next-generation aircraft in the form of the P-38 and P-47.

Undaunted, Japanese forces proceeded with the occupation of the coastal areas of northern New Guinea. Four IJN warships appeared off Wewak at 1600 hrs on December 18, 1942, and six hours later crews started unloading supplies. By early the next morning Wewak and nearby areas had been occupied without resistance. An airfield was carved out among the palms at Boram Plantation from March 1943, while missionary airstrips at Wirui, But and Dagua were upgraded by the 5th and 10th Airfield Construction Units. The latter relied heavily on the efforts of 400 Indian soldiers captured in Hong Kong and Singapore. By May 1943 there were nearly 160 revetments surrounding the Boram/Wirui complex, while But and Dagua airfields boasted about 40 revetments for bombers. A substantial number of fighter revetments were also subsequently built.

As previously mentioned in this chapter, the war in the Southwest Pacific often centered on the control of the few decent airfields in New Guinea and surrounding islands. A good airfield was worth its weight in gold as a result, and here the Americans and Australians excelled. Their engineering prowess far outstripped that of the Japanese, allowing them to build airfields faster and better than their Japanese counterparts. By early 1943, the Fifth Air Force, which controlled all USAAF assets in the Southwest Pacific, had excellent sites from which to operate, putting short-range fighters within striking distance of the IJNAF fortress at Lae and bombers within range of Wewak.

A Ki-43-II from the 24th Sentai takes off from Dagua in May 1943. This airfield was one of three missionary airstrips near Wewak upgraded by the 5th and 10th Airfield Construction Units from January 1943. (Dr. Yasuho Izawa Collection)


USAAF airfield
Japanese airfield
Manus Island
Momote
Hollandia
Aitape
But
Dagua
Wewak (Wirui)
Boram
WEWAK AREA
Awar
Nubia
BISMARCK SEA
New Ireland
Rabaul
DUTCH
NEW GUINEA
PAPUA
NEW GUINEA
MADANG AREA
Alexishafen North
Alexishafen South
Madang
Long
Island
Cape Gloucester
Umbol
Island
New Britain
Saidor
Mt Hagen/Bena Bena
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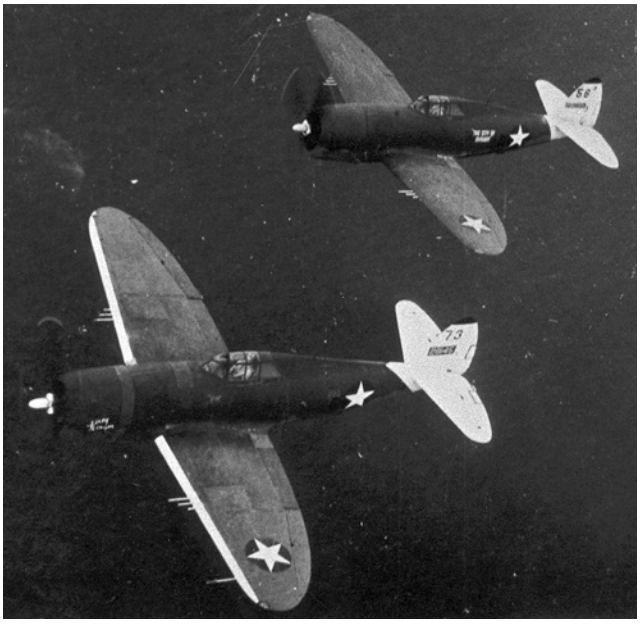


Lt Col Neel Kearby (in 42-8145) leads his unidentified wingman during an early mission in July 1943. The future high-scoring ace and Medal of Honor recipient claimed his first three victories (one of which was an "Oscar") in this P-47D-2 during early September. The second Thunderbolt (42-8095) survived until December 26, 1943, when it was lost supporting the invasion of Cape Gloucester. The fighter was possibly shot down in error by US Navy destroyers, its pilot, 2Lt James E. Pratt of the 342nd FS, being listed as missing in action. (Author's Collection)

Following the disastrous Battle of the Bismarck Sea on March 2–4, 1943, which saw eight IJN transport vessels and four destroyers sunk by the Fifth Air Force as the ships tried to move troops from Rabaul to Lae, the Japanese Imperial General Headquarters gave serious consideration to abandoning New Guinea altogether. However, it stayed on largely due to IJN pressure. On March 25, 1943, the IJAAF–IJNAF Central Agreement was again revised, redirecting the IJAAF's main thrust toward defending Lae and Salamaua and strengthening its extant air bases. A revised strategy abandoning plans to invade Port Moresby freed up the IJAAF to commit more forces to the Wewak area.

A well-equipped hospital was established on July 1, 1943 at Cape Moem near Wewak commanded by Lt Col Yoshito Sato. IJAAF support units built several two-foot gauge railway lines at Boram, Tadji, Alexishafen, Madang and on Kairiru Island to help with airfield construction, transport munitions and assist the movement of lumber. Small petrol-driven locomotives built by the Kato Works ran on these lines, some of which were quite long. Steep haulages were cable-driven, allowing them to traverse hills.

From January to April 1943 the IJAAF supplied units on the northern New Guinea coastal strip with numerous aircraft types. Additional weapons were sent, including 13 anti-tank guns to be specially mounted in Ki-45s and Ki-46s that would equip a new Special Attack unit. A suite of support units arrived, including anti-aircraft, communications, chemical, meteorological, administrative and intelligence detachments. The 51st Airfield Battalion, commanded by Capt Nanzo Nishina, arrived at Boram with 500 men in July to conduct maintenance and garrison duties. The 47th Airfield Battalion, led by Capt Mitsuo Yanashima, deployed contingents to Hansa Bay and But airfields in mid-September. The 20th Airfield Battalion arrived shortly thereafter, its 200 personnel being offloaded from the merchantman *Yamagata Maru* at But airfield on September 30.

By mid-1943 the IJAAF considered that newly constructed Allied airfields in the highlands at Mount Hagen and Bena Bena posed a direct threat to Wewak and its satellites. To counter this, the 7th Hikodan was redeployed to Wewak from the East Indies in June. IJAAF air strength continued to grow throughout mid-1943, resulting in the creation of the 4th Kokugun (Air Army) to exercise command over the 6th and 7th Hikodan. Its headquarters was established at Rabaul on July 25.

The Fifth Air Force responded to the IJAAF's enlargement in size in kind, and from early November 1943 it too began to reinforce its frontline strength. Not only were numbers increased, but for the USAAF it also saw a significant increase in quality and quantity. Although finding additional P-38s proved hard, other squadrons replaced their worn-out P-39s and P-40Es with new P-40Ns and P-47Ds. The latter type, in particular, would find itself in the vanguard of the aerial action as the USAAF targeted Wewak, and the fighter units based there.

THE COMBATANTS

USAAF PILOT TRAINING

During the first 18 months of the war the USAAF was under great strain. The demand for pilots in 1942–43 forced the system to place an emphasis on "quantity rather than quality," and it was not until the early part of 1943 that Allied training surpassed Japanese training in terms of its length and overall quality.

The majority of the P-47 pilots that went into combat over New Guinea from mid-1943 were products of the USAAF's pilot training program carried out by Technical Training Command and Flying Training Command. Tuition was undertaken in four stages, starting with Primary Flight Training, which saw students accrue 65 hours in trainers such as the 200hp PT-19 Cornell monoplane or 220hp PT-13 Stearman biplane. The standard primary school flight training was divided into four phases, with the pre-solo phase including general operation of a light aircraft, proficiency in landing techniques and recovery from

Two Advanced Flying School student pilots from the 37th Flying Training Wing's 330th Single Engine Flying Training Group fly a pair of AT-6C Texans from their Luke Field, Arizona, base in the summer of 1943. All P-47 pilots sent to New Guinea in 1943–44 logged time in the ubiquitous Texan prior to being posted to a frontline unit. (NARA)

No P-47 dual-seat trainers were ever built, and some pilots found the step up in performance from the Texan to the Thunderbolt too much to handle. Crashes were commonplace as a result, with this P-47B from the 351st FS/353rd FG being written off by 2Lt Frank Emory near Millville, New Jersey, on April 2, 1943. (NARA)

stalls and spins. The second phase involved pre-solo flying, working on patterns such as "elementary 8s," "lazy 8s," "pylon 8s," and "chandelles." The third phase was dedicated to developing a high proficiency in landing approaches and landings. The fourth phase dealt with aerobatics. Each cadet had to make at least 175 landings before moving on. This was followed by 70 hours of Basic Flight Training in a 450hp BT-13/15 Valiant basic trainer.

The next stage was Advanced Flight Training, which took the form of a ten-week course involving 75 hours of flying, 60 hours of ground schools and 19 hours of military training. Flying was done using the most powerful aircraft in the training syllabus, the 600hp AT-6 Texan. After successfully completing Advanced Flight Training the student would be awarded his silver pilot's wings and given the rank of flight officer, or commissioned as a second lieutenant.

From December 1942 pilots then experienced transition flying training for two months with a Fighter Replacement Training Unit. Here, they learned to fly early versions of the frontline fighter type they would operate in combat. It was a major, and frightening, leap for a young pilot to move from the 600hp AT-6 to a beast like the 2,000hp P-47 Thunderbolt. Dual trainers were non-existent and crashes were far too common. By today's safety standards the training was harsh and unforgiving, and in some ways it had to be. The price paid proved devastating, as thousands were lost learning to fly some of the world's most dangerous and potent fighters – the USAAF recorded 52,651 training accidents resulting in 14,903 fatalities and 13,873 aircraft written off.

Having survived nine months of flying training, and with 200 hours of flight time in their logbooks, pilots were then assigned to unit training groups or designated as replacements for squadrons already in the frontline.

P-47D THUNDERBOLT COCKPIT

1. Landing gear control lever
2. Elevator trim tab control wheel
3. N-3B reflector gunsight
4. Fuel level sight
5. Rudder trim tab control
6. Aileron trim tab control
7. Cowl flap control lever
8. Fluorescent light switch
9. Mixture control lever
10. Throttle quadrant locks
11. Throttle lever
12. Propeller control lever
13. Supercharger control
14. Instrument lights
15. Tailwheel lock
16. Clock
17. Artificial horizon
18. Airspeed indicator
19. Turn-and-bank indicator
20. Tachometer (rpm counter)
21. Altimeter
22. Rate-of-climb indicator
23. Carburetor air temperature gauge
24. Cylinder head temperature gauge
25. Oxygen flow blinker gauge
26. Oxygen pressure gauge
27. Ignition switch
28. Master battery switch
29. Turbo tachometer
30. Compass
31. Combined oil temperature and pressure gauge
32. Hydraulic pressure gauge
33. Fuel quantity gauge
34. Direction gyro turn indicator
35. Suction gauge
36. Engine hours gauge
37. Manifold pressure gauge
38. Battery amps gauge
39. Flare gun port
40. Engine primer
41. Oxygen hose
42. Oxygen regulator
43. Cockpit light control
44. Fuel selector valve
45. IFF radio destroyer switch
46. Switch box for identification lights
47. Command transmit switch box
48. Command receiver control box
49. Cockpit vent control
50. Crystal filter selector switch box
51. Rudder pedals
52. Control column
53. Pilot's seat
54. Circuit breakers
55. Flare gun storage box
56. Circuit breakers
57. Main switch box
58. Gun safety switch
59. Flaps control lever
60. Parking brake handle
61. Switches for recognition lights
62. Stores release switches
63. Accelerometer
64. Rearview mirror
65. Ring-and-bead sight

IJAAF PILOT TRAINING

Potential IJAAF pilots could enter flying training either by internal transfer (enlisted men and recruits were both eligible) or via the Shonen Koku Gakko (Air Cadet School). Successful candidates, after passing physical and medical standards, were then posted to an air training unit for service and elementary instruction, but no flight training. After approximately two years, having attained the rank of corporal, they qualified for Elementary Flying School (EFS). Once here, candidates could record their preference to fly fighters, bombers or reconnaissance aircraft. Ground staff candidates, after receiving approximately six months' training at an air training unit, were posted directly to frontline units, flying schools or air training regiments.

The cadet system encouraged applicants as young as 15 to apply for the Shonen Koku Gakko, where they remained for nearly three years. Students graduated as superior privates, and were eligible for acceptance into EFS, where they trained alongside those who had joined directly from army ranks through an internal transfer. EFS primary training lasted six months, students flying with instructors for a minimum of 20 hours prior to going solo. At this stage all students trained in either Tachikawa Ki-9 biplane or Ki-55 monoplane trainers. After six months, students had accrued around 90 flying hours, at which point their instructors submitted recommendations for future training. Placement usually reflected their performance in training.

The main army flying schools were at Tachiarai, Kumagaya, Utsunomiya, Gifu and Tokorozawa. For secondary training, students were assigned to fighter, bomber or reconnaissance conversion units for up to four months, followed by two months of advanced training in the frontline type flown by the unit to which they had been assigned. During this phase they received a further 30 hours of flying tuition. Upon graduation they received an army pilot certificate known as a Shugyo Shosho.

Discipline was strictly maintained during all courses, with corporal punishment liberally meted out, including routine beatings during induction. Instructors took to

The airfield at Kimpo, Korea, shortly after the Japanese surrender. In the foreground are a number of Tachikawa Ki-55 "Ida" advanced trainers, with Tachikawa Ki-9 "Spruce" and Kokusai Ki-86a "Cypress" biplane trainers lined up behind them. After mastering these types, trainee fighter pilots would move onto the Ki-27 "Nate" and then the Ki-43 "Oscar" for the majority of aviators destined to serve in northern New Guinea. By March 1945 all pilot training in the IJAAF had come to an end. (NARA)

students with canes, belts or shoes, often using fabricated transgressions to justify the hidings. Some pilots had previously served with army ground units in China where bayonet training, sometimes against live prisoners, had been part of combat preparation. All alcohol was forbidden (sake being considered particularly corrupt) and brothels were declared off limits. Daily routine commenced at 0600 hrs, followed by flight training, lunch and rest, study of aircraft engines, systems and weather, gymnasium routines, dinner at 1800 hrs, then evening study until lights-out at 2100 hrs.

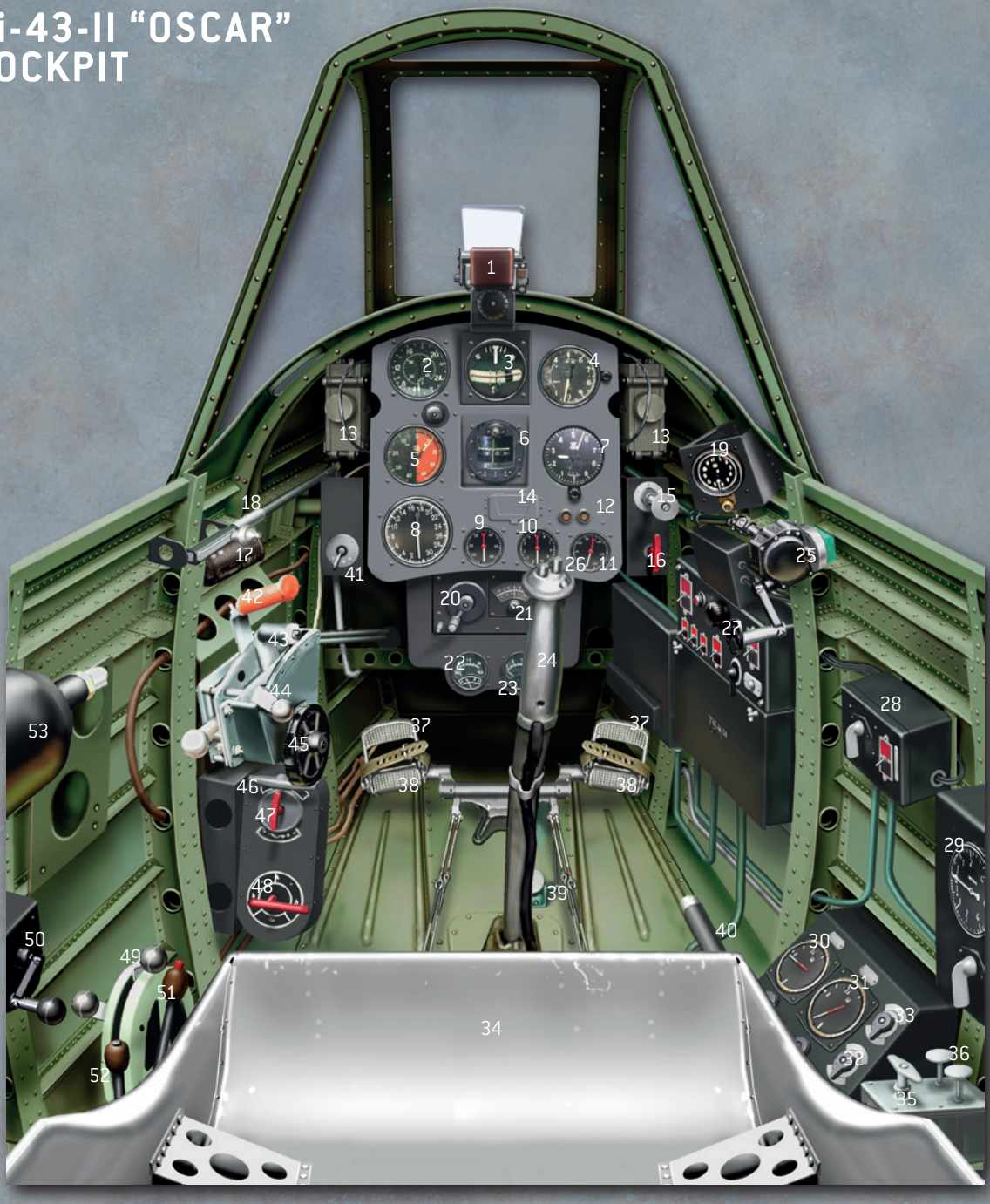
A contemporary news photograph showing would-be IJAAF fighter pilots receiving training in air combat maneuvers from their instructor while a Ki-43 flies past overhead. In the early years of the war a great deal of operational training took place at unit level. Some successful pilots who managed to survive combat were posted back to Japan to serve as instructors. (Edward M. Young Collection)

Fighter pilots were trained in Ki-27s and Ki-43s, after which they joined a combat unit with about 240 flying hours in their logbooks. When assigned to an operational unit, pilots were first classified into one of three categories, "A," "B," or "C" (ko, otsu and hei). Category A pilots were considered suitable for combat, those in B required another month of training, and C pilots another six months. Regardless of their classification, all pilots should have ideally acquired about 500 hours of flying experience before being sent into combat. As with the USAAF, accident rates in IJAAF training units were high due to the challenging nature of the flying involved – this was particularly the case during the advanced training phase. Most fatalities were caused by mid-air collisions while simulating aerial combat.

After the war the Fifth Air Force conducted a study of IJAAF pilots which concluded that they had been well trained until early 1943. At this point a steady decline began. During the first year of the conflict in the Southwest Pacific, IJAAF pilots in-theater had good totals of 300–500 flying hours, but for much of 1943 the largest group comprised pilots with 200–300 flying hours. In November of that year a new group of replacement pilots arrived at Wewak with less than 200 hours each. By July 1944 only a handful of IJAAF fighter pilots in the frontline had more than 300 flying hours to their names.

Many officers, both USAAF and IJAAF, agreed that replacement Japanese pilots were feeling the effects of the now emasculated training program by the fall of 1943 – just as the number of P-47s in New Guinea began to increase in size. This revealed itself in the stark and unforgiving world of aerial combat. Good training was essential, not just for fighting but for survival as well. Flying a fighter with the power of a locomotive proved too much for many young replacement pilots. Most, if not all, their energy was directed at just keeping the aircraft in the air. Young pilots were simply overloaded with stimuli and unable to respond in the correct fashion. Thunderbolt pilots frequently observed that their IJAAF counterparts exhibited a "suicidal lack of

Ki-43-II "OSCAR" COCKPIT



1. Army Type 100 reflector gunsight
2. Airspeed indicator
3. Turn-and-bank indicator
4. Rate of climb indicator
5. Manifold pressure gauge
6. Compass
7. Altimeter
8. Tachometer
9. Fuel pressure gauge
10. Oil pressure gauge
11. Oil temperature gauge
12. Undercarriage warning lights
13. 12.7mm guns
14. Guarded switch cover
15. Engine primer fuel pump
16. Cocking handle
17. Cabin lamp
18. Elevator trimming
19. Chronometer
20. Radio tuner
21. Radio dial
22. Cylinder head temperature gauge
23. Exhaust temperature gauge
24. Control column
25. Canopy winding mechanism
26. Combat flap control buttons
27. Main switch box
28. Oxygen control
29. Oxygen flow meter
30. Fuel gauge (main tanks)
31. Fuel gauge (auxiliary tanks)
32. Auxiliary tanks selector
33. Right and left main tank selector
34. Pilot's seat
35. Hydrostatic plunger for main tanks
36. Hydrostatic plunger for auxiliary tanks
37. Hydraulic brake pedals
38. Rudder pedals
39. P.4 compass
40. Emergency hydraulics hand pump
41. Magneto switch
42. Throttle lever
43. Mixture control
44. Propeller pitch control
45. Friction adjuster
46. Control handle valve
47. Internal tank fuel cock
48. Main fuel cock
49. Undercarriage emergency operation
50. Cam manipulation
51. Undercarriage selector
52. Flap selector
53. Compressed air bottle

action" when attacked. They also observed a definite lack of alertness, and many Japanese pilots seemed frightened or bewildered when their formations were split up. This resulted in the decimation of "Oscar" units by the spring of 1944.

MORALE AND CONDITIONS

The first Thunderbolt group to arrive in New Guinea was the 348th FG, whose 341st FS set up operations at Durand Drome on July 14, 1943. With pilots spoiling for combat, and intense competition between units to receive the much vaunted Lightning, there was initial resentment among the group's aviators when they perceived that the Thunderbolt was a dud, particularly in respect to its lack of range – critically important for a fighter in the Southwest Pacific. P-38s in-theater regularly made the long journey to Rabaul, where there was guaranteed combat action, on the safety of two engines. No Thunderbolt ever got there, making the Republic fighter and those that flew it the recipients of dry humor from Lightning pilots.

Like their counterparts in P-47 units, Ki-43 pilots sent to the Southwest Pacific endured a long, and sometimes hazardous, transit to airfields on the northern New Guinea coast. The diary of the 33rd Sentai's Sgt Maj Harumi Takemori records a typical Ki-43 delivery route via the East Indies archipelago – Singapore, Bangkok, Jakarta, Malang, Maomere, Ambon and Hollandia, before finally reaching Wewak – late in the campaign.

When not flying, pilots from both sides found life in-theater to be habitually monotonous. With limited recreational distraction, at least those from IJAAF units based around Wewak's airfields could swim at nearby gray-sand beaches and freely drink alcohol, which remained available well into 1944. "Oscar" pilots conducted their briefings outside tents or crude wooden operations huts, and they were always followed by a pep talk and a discussion about the course to be flown and the target to be attacked.

USAAF pilots at Port Moresby also endured a rudimentary existence. To pass evenings at both Wewak and Port Moresby, pilots played games or read inside their mosquito nets or tents. American aviators could listen to the radio show "Zero Hour," broadcast from Japan. Designed to make GIs homesick, it usually had the opposite effect. Although the Japanese military's hierarchical structure was more rigid than its American counterpart, the treatment by IJAAF officers of subordinates was more lenient in the frontline than at home. A more collegiate

Maj Takeo Sato, CO of the 59th Sentai from November 1943, poses outside his HQ building close to the beach at But airfield. The Ki-43 drop tank has been adorned with the titling "Sato unit fighter command HQ." An identical tank was the focal point of a simple memorial shrine built at nearby Dagua airfield to commemorate the souls of lost crews. (Courtesy of George Eleftheriou)

WILLIAM "BILL" DUNHAM

Born in Tacoma, Washington, in January 1920, William Douglas Dunham grew up in Nezpeace, Idaho, and attended the University of Idaho from 1937 to 1940 prior to joining the US Army Reserve. He served as a flying cadet at Luke Field, Arizona, from April 26 through to December 12, 1941, after which he was assigned to the P-39-equipped 53rd Pursuit Group at Howard Field in the Panama Canal Zone. Dunham was eventually transferred back to the USA in November 1942 to join the newly formed and P-47-equipped 342nd FS/348th FG.

By the time the group reached Australia in late June 1943, Dunham had been promoted to the rank of captain. The 342nd FS was sent to Wards Drome, New Guinea, the following month, and Dunham was assigned P-47D-2 42-8067, which he christened *Bonnie*. By the end of December 1943 the fighter had been adorned with seven Japanese flags. These were for victories on October 11 (a Ki-61, possibly flown by Capt Shigeru Koyama), October 16 (although two "Haps" were claimed by Dunham, there were no IJNAF Zero-sens in the Wewak area, so his victims were possibly 13th Sentai "Oscar" pilots Capt Rokuro Asahi and Sgt Maj Saburo Ikeda), October 19 (an F1M "Pete" floatplane from the 958th Kokutai near Kairiru Island), and December 22 (he claimed three D3A "Vals," although one of these may have been the "Oscar" of Sgt Akijiro Kato from the 59th Sentai).

Dunham tried to intervene when his group CO and friend Col Neel Kearby was killed near Dagua on March 5, 1944 – indeed, Dunham claimed a G3M "Nell" bomber and an "Oscar" destroyed on this date. Made CO of the 342nd FS in May 1944, he was given command of the newly formed 460th FS upon its formation two months later. Still flying the Thunderbolt (albeit in D-21/23 form), Dunham claimed five more victories – including two "Oscars" – during combat over the Philippines. He eventually ended his first operational tour in January 1945 as assistant operations officer for the 348th FG. By the time he rejoined the group as its operations officer four months later, the 348th had swapped its Thunderbolts for Mustangs. Recently promoted Lt Col Dunham claimed his 16th and last victory on August 11, when he downed a Ki-84 "Frank" during a long-range sweep of Kyushu from Ie Shima, on Okinawa.

Dunham remained in the USAAF post-war, flying Thunderjets and Thunderstreaks among other types and serving as deputy chief of staff for the Seventh Air Force during the early stages of the Vietnam War. He eventually retired from the USAF in 1970, having attained the rank of brigadier general. Dunham succumbed to lung cancer in Issaquah, Washington, on March 3, 1990.

Maj Bill Dunham smiles for the camera while posing in the cockpit of his P-47D-23 42-27884 at the end of his first tour with the 348th FG in January 1945. (NARA)

SHIGEO NANGO

Born in Tokyo in 1917, Nango, who was the younger brother of IJNAF ace Lt Cdr Mochifumi Nango (who had been killed in action on July 18, 1938), graduated from the IJAAF's Military Flying Academy with the 51st course in April 1939. Four months later, following fighter training at Akeno, he joined the 33rd Sentai in China just as the unit commenced combat operations with the Ki-27 during the Nomonhan Incident with the Soviet Union. Nango was deemed to be too inexperienced for such flying, however, and he spent his time logging training sorties until the conflict came to an end.

In the spring of 1941 he returned to Akeno as an instructor, Nango remaining here until January 1942 when he was posted to the Ki-43-I-equipped 59th Sentai as leader of its 2nd chutai. By now a captain, Nango joined the unit in Java two months later just as the Dutch East Indies fell into Japanese hands. Mundane convoy patrols were the norm until June 1943, when Nango led the 59th Sentai (now flying Ki-43-IIs) on its only two missions against Darwin, Australia, on the 20th and 22nd.

Just 19 days after the second raid the 59th was placed under the control of the 7th Hikodan with a strength of 27 Ki-43-IIs. The unit moved to But airfield, on the northern New Guinea coast, on August 15. Within hours of their arrival they escorted Ki-48 "Lily" bombers in an attack on Fabua (the Japanese name for Tsili Tsili/Marilinen) airfield, in the Huon Valley. Nango targeted USAAF C-47s by boldly entering their traffic pattern and shooting down an aircraft assigned to the 21st Troop Carrier Squadron. Getting in close to his target before opening fire, his "Oscar" was liberally covered in oil to the point where Nango was on the verge of diving into the ground to kill himself when he realized that his fighter had not been hit.

Nango led the 59th back to Fabua the next day (August 16), this time escorting three Ki-21 "Sally" bombers from the 14th Sentai. The "Oscar" pilots claimed 21 American fighters destroyed on this mission, with Nango being credited with forcing two Thunderbolts to collide while trying to avoid his fire. In reality, just one P-47 had been shot down during the entire action – over-claiming by both sides was rife in the Southwest Pacific theater.

Nango continued to fly on an almost daily basis until early October, when the 59th was sent to Manila to recuperate. On the last day of the month the sentai returned to New Guinea, but during the flight its CO, Maj Takao Fukuda, was killed when he ditched into Geelvink Bay off northern Papua. Nango was immediately promoted to executive officer and acted as temporary unit commander until Lt Col Takeo Sato arrived.

As more senior aviators fell victim to P-38s and P-47s, Nango routinely led the other four fighter sentai in-theater. He was revered by fellow fighter pilots, with high-scoring ace Capt Yasuhiko Kuroe stating post-war that "Nango was cheerful, unselfish, intrepid and he didn't put on airs, so he was loved by his superiors and subordinates alike to an uncommon degree." Amassing a tally of at least 15 aerial victories, Nango was being referred to as "He who maintains the air battle of New Guinea for the Japanese Army" in the nation's press by early 1944.

Scheduled to return home after flying myriad missions in-theater, Nango led aloft a large number of "Oscars" on January 25, 1944 when Wewak's airfields were targeted yet again by USAAF fighter-bombers. Both P-38 and P-40N pilots claimed numerous Ki-43s shot down that day, one of which was flown by Capt Shigeo Nango. Posthumously promoted two ranks to lieutenant colonel, the citation that accompanied his promotion read, "His superb leadership, unprecedented fighting spirit and splendid fighting technique was typical of Army flying unit leaders."

High-scoring ace Capt Shigeo Nango had been credited with 15 victories by the time of his death in combat on January 25, 1944. (Dr. Yasuho Izawa Collection)

When the weather became too hot in New Guinea USAAF personnel already enduring a rudimentary existence (particular in comparison to their counterparts flying from bases in England) improvised in order to stay as cool as possible. Here, a P-47D's "slab" wing and large flaps have provided a shaded sanctuary from the sun for a resting groundcrewman. (Author's Collection)

spirit was fostered by the common experience of combat. Meals were prepared by airfield battalions, which also supplied medical staff. Officers sometimes intermingled with non-officer pilots during meals, but typically ate at the end of the table. While regular food supplies remained available at Wewak, IJAAF policy was to give pilots extra and better quality food rations.

Pilot fatigue became a mounting problem at Wewak, with rest only available to aircrew when units were rotated away. At Dagua, a simple memorial shrine was built (its focal point was a drop tank) to commemorate the souls of lost crews. Malaria and dysentery posed huge problems, and different units tackled it with varying degrees of severity and effectiveness. All IJAAF aircrew were provided with celluloid vials in which to carry Atebrine anti-malaria medication, and they were required to consistently wear long sleeves and pants. Accommodation was in tents, for which eight-man mosquito nets were available. To deter malaria, mosquito coils were used, airfields were cleared of grass, and oil was spilled on water to prevent the breeding of larvae. Thanks to the strict enforcement of prophylactic standards, the 248th Sentai suffered only five cases of malaria that required hospitalization at Wewak. By contrast, very few USAAF pilots contracted malaria. Both sides were, however, subjected to a plethora of other tropical diseases such as dysentery.

COMBAT

On June 14, 1943, the 342nd FS of the 348th FG became the first Thunderbolt squadron to arrive in Australia when its ground echelon disembarked at Brisbane docks. Exactly a month later, the 342nd flew these aircraft to New Guinea. On July 24 the 340th FS set up base at Seven-Mile Drome, followed a few days later by the 341st FS with another 25 P-47D-2s.

The combat novices of the 348th FG initially patrolled New Guinea's southern coast and conducted regular training flights, before being tasked with escorting transport aircraft. Soon, the group had been promoted to protecting bombers targeting New Guinea's northern coast. The next phase for the Thunderbolt pilots would be sorties to Wewak when the Fifth Air Force's V Fighter Command deployed groups of P-47s to engage the IJAAF on their own terms, picking off unwary enemy aircraft. The chief architect of the latter tactic was Lt Col Neel Kearby, CO of the 348th FG. He emphasized that pilots should never break strict rules of engagement made for purpose. Kearby was particularly adamant that his men should not engage the enemy in a low-energy state, where superior Japanese maneuverability could be lethal.

Losses to the notoriously unpredictable weather would also have an impact on both Thunderbolt and "Oscar" units alike in 1943–44. For the Japanese, the worst operational loss in terms of fatalities came on July 10, 1943 at But airfield when WO Chiyoji Saito landed in swirling dust kicked up by preceding aircraft and collided with the chutaicho of the 24th Sentai's 1st chutai, Lt Tadashi Koga. Both pilots perished. Such accidents were far less common for the IJAAF than for the USAAF, with the 348th FG having nine pilots killed in non-combat related accidents between August 15, 1943 and April 15, 1944 while flying from Port Moresby, Finschhafen and Saidor. The first Thunderbolt pilot to lose his life was 2Lt John Schrik, whose fighter spun into the ground on approach to landing when it struck wind turbulence caused by a

P-47D-2 42-8139 flies over the foothills of the Owen Stanley Range to the north of Port Moresby during one of the 348th FG's first training flights following the group's arrival in New Guinea in July 1943. (Author's Collection)

P-47 ahead of him. Pilots quickly learned that humid, hot air was dangerously thin in density, which adversely affected a heavy aircraft like a Thunderbolt when the fighter was in a low-energy state during its approach to landing.

Just 24 hours after Schrik's death, 32 P-47D-2s embarked upon the first Thunderbolt mission of the Pacific War, during which they would encounter "Oscars". The pilots involved, flying alongside P-38Fs, were tasked with escorting C-47s to Marilinen (also known as Tsili Tsili, and Fabua to the Japanese), where a new airfield was being provisioned. The base was only 45 miles southwest of Lae, and its proximity to the latter had taken the Japanese by surprise. A solitary Ki-51 "Sonia" of the 83rd Independent Chutai initially surveyed the area as a prelude to an unsuccessful attempt by Ki-49 "Helen" heavy bombers of the 7th Sentai to target the airfield during the night of August 15. Poor weather had prevented them from finding Marilinen, and one bomber was lost in the mountains on its return flight to But airfield.

August 16 would be a big day for "Oscars" in New Guinea, with the 59th Sentai sending 19 fighters aloft and the 24th Sentai 14. Three Ki-21 "Sally" bombers from the 14th Sentai were scheduled to strike the airfield first, but the USAAF C-47 transports and their protective fighter screen reached Marilinen just before them. The 59th Sentai tried to engage the Skytrains, but they were well defended by the Thunderbolts. 2Lt Leonard Leighton of the 341st FS was shot down by one of the "Oscars" moments after he had claimed a Ki-43 destroyed. Australian soldiers later buried him near the wreckage of his fighter, Leighton having become the first P-47 pilot lost in combat in the South Pacific.

Fourteen other USAAF pilots (all flying P-38s) were also credited with "Oscar" victories following this mission, although only the Ki-43s flown by 1Lts Shohei Inaba and Takeyoshi Fujikawa and Sgt Yoshiuki Yamanaka were destroyed. The IJAAF fighter pilots outdid their American counterparts in the extravagance of their claims, which totaled 21 USAAF fighters shot down against the solitary loss of 2Lt Leighton! Capt Shigeo Nango even claimed two by reporting that he had forced a pair Thunderbolts to collide. Among the 59th's cadre of pilots over Marilinen that day was

its top-scoring ace, Lt Hiroshi Onozaki. Despite being afflicted with amoebic dysentery, he nonetheless pressed his CO to fly the mission. Onozaki was medically evacuated to Japan a few days later, however.

Later that same afternoon, the 340th FS, which had not participated in the morning mission to Marilinen, escorted B-25 strafers to Alexishafen airfield. They were challenged by many "Oscars" as they approached the target, and Capt Max Wiecks fired at one that fell away on its left wing. Future ace 1Lt Myron Hnatio saw the aircraft spinning away on fire. Wiecks' success is recorded as the first "Zeke" kill for a Thunderbolt – thanks to them both being radial-engined, the ubiquitous A6M Zero-sen and the Ki-43 were routinely misidentified by Allied opponents in the Pacific. No "Oscars" were lost on this date, and the closest Zero-sens were almost 450 miles to the east at Rabaul, on New Britain.

On August 17 the 1st Sentai returned to Japan from Rabaul, the unit handing over its surviving Ki-43-Is to the 13th Sentai at Wewak prior to its departure. The latter unit, which also flew the Ki-45, would only fly the early model "Oscars" until it received Ki-43-IIs.

The 17th also saw the first ever bomber strafing mission flown by the USAAF against the airfields at Wewak, the operation being conducted by 38th Bombardment Group (BG) B-25 Mitchells equipped with long-range fuselage fuel tanks. Among the many IJAAF losses was the 59th Sentai's entire 3rd chutai, which was caught on the ground warming up its "Oscars" at Dagua airfield for an attack on Marilinen. One fighter was burned to the ground, six were damaged beyond repair, and five more would require major work to render them airworthy once again. The 59th Sentai was left with only eight operational Ki-43-IIs.

A repair crew from the 27th Air Depot stand alongside 35th FG P-47D-4 42-22838 (which boasts a Japanese victory decal beneath the cockpit) that had suffered damage during a forced landing at Nadzab in early 1944. Many Thunderbolts were lost to operational accidents in New Guinea. (Author's Collection)

When the same strafers appeared the following morning, the commander of the 59th's 1st chutai, Capt Shigeki Namba, immediately scrambled five "Oscars" following reports of incoming enemy aircraft. He initiated a wingover after take-off, then conducted a solitary frontal firing pass at one of the three flights of approaching B-25s from the 405th BS. Namba succeeded in shooting down the lead Mitchell flown by unit CO Maj Ralph Cheli.

The 342nd FS was also in action on August 18 when it sortied 16 Thunderbolts to escort transports into the Wau/Bulolo Valley, where solid overcast persisted from 7,000 to 13,000ft. The squadron was led by future ace Capt Edward Roddy, who attempted a shortcut over the headwater of the Upper Bubu Valley. However, his formation inadvertently entered cloud, and none of the pilots were instrument-rated. Suddenly, no one knew where each other was, let alone the proximity of the mountains on either side of the valley. Upon emerging from cloud two Thunderbolts were missing – 2Lt Wilfred Desilets and his fighter were finally located in 1996, while 2Lt Cyril Andrews became disorientated and bailed out. He landed in a tall tree, breaking his leg when he cut himself free from the snagged parachute. Andrews was eventually rescued by villagers three days later and returned to base in a C-47 from Garaina. Roddy would concede after the war it was miraculous that the entire squadron had not been lost.

Of course, New Guinea weather was impartial to both "Oscar" and Thunderbolt alike in such conditions, although as previously noted, P-47 pilots suffered far more operational accidents. From its arrival at Port Moresby on July 14 until the end of September, the 348th FG lost or badly damaged 14 Thunderbolts in operational and training accidents. The series of mishaps highlighted one of the large fighter's main shortcomings – lack of forward visibility when taxiing. A solution was found by having a groundcrewman lie facing forward on the outer wing who would act as the pilot's eyes while taxiing. Another major contributor to accidents was Port Moresby's humid, hot air, which was dangerously thin in density. This duly meant that Thunderbolt pilots were landing too fast, or losing control on take-off. Wewak's warm and humid air also affected the nimble "Oscar's" performance, but to a lesser degree than that of the far heavier Thunderbolt due to the IJAAF fighter's lighter wing loading.

These aviators from the 24th Sentai survived five months of combat over New Guinea between May and October 1943, claiming 80 aerial victories for the loss of 20 pilots. This photograph was taken at Ashiya airfield, in Japan, in December 1943. The individual in full uniform, minus his flying gear, in the center of the shot is sentai CO, Maj Shoichi Tashiro, who led the unit from August 1943 through to December 1944. (Dr. Yasuho Izawa Collection)

Around this time 1Lt Masaaki Yoshida, future CO of the 59th Sentai's 1st chutai, forced-landed his Model II – it is not clear whether this was due to mechanical failure or combat. Yoshida was rescued, being much heralded when he was returned to But airfield in a canoe by friendly locals shortly thereafter.

Capt Bill Dunham's first Thunderbolt, P-47D-2 42-8067, is seen at Wards Drome shortly after its arrival from Australia. Within a few days it had a blue tail tip and the squadron number 68 applied in black on the fin. Dunham christened the fighter *Bonnie,* and he claimed two "Haps" (almost certainly Ki-43-IIs) with it on October 16, 1943. (Author's Collection)

On September 13 another escort mission to Marilinen was conducted by eight fighters from the 342nd FS, and they became embroiled in a fight alongside Lightnings and Warhawks when at least six Ki-43s and Ki-61s and 20 Ki-21 bombers were engaged. Future ace Capt William Banks was credited with one Ki-43 destroyed among the 11 victories claimed by US pilots that day. No Japanese fighters were lost, however.

At this critical juncture, IJAAF command ordered several unit rotations that were designed to rest sentai and strengthen air power in New Guinea. This meant a redistribution of fighter inventories. On October 2 the 24th and 59th Sentai returned to Japan via the Halmaheras, leaving behind 11 and 15 Model IIs, respectively. Ten of these aircraft were transferred to the 68th Sentai, which was running low of serviceable Ki-61s, while others wound up with the 13th Sentai. It appears likely that several of the latter unit's combat-weary Model Is were relegated to salvage status for parts at this juncture. Nonetheless, in early October several Ki-43-Is previously assigned to the 1st Sentai were noted as active at the Wewak/Boram complex, as revealed in low-level strike photographs.

On October 10 the 348th FG tried to strike Wewak for the first time, although thick overcast scrubbed the mission. The following morning, while most of the group flew yet another transport escort mission to Marilinen, recently promoted Col Neel Kearby assembled a quartet of experienced pilots to head to Wewak once again. Future ace Capt John Moore (operations officer for the 341st FS) flew as his wingman, while 342nd FS pilots Maj Raymond Gallagher (squadron CO) and future ace Capt Bill Dunham made up the quartet. They took off from Wards Drome at 0730 hrs, refueled at Marilinen and then headed for Wewak at 0930 hrs. At 1105 hrs Kearby ordered drop tanks released as the four fighters approached the target area in fine weather, with only light cloud coverage.

With the recent departure of the 24th and 59th Sentai, Wewak's remaining fighters were mostly spread out between But and Boram, with a 13th Sentai contingent based at Alexishafen operating a mixed bag of 15 hand-me-down "Oscars." At Boram, the understrength 68th Sentai was equipped with ten Ki-43-IIs and four Ki-61s. The 68th and 78th Sentai usually paired up for combat missions, operating under the command umbrella of Lt Col Tamiya Teranishi's 14th Hikodan. However, the 78th's temporary withdrawal to Manila to partially re-equip with Ki-61s (it also retained a small number Ki-43-IIs until March 1944) meant a reduced availability of fighter pilots in Wewak. This shortage perhaps pressured Teranishi into flying on October 11 in contravention to IJAAF policy that discouraged such senior commanders from engaging in aerial

Photographed at Wards Drome in December 1943, Col Neel Kearby poses alongside the growing victory tally on his P-47D-2 42-8145. Six of these kills denote the claims he made on October 11 during the mission that earned him the Congressional Medal of Honor. (Author's Collection)

combat. A similar practice was adopted by the Allies. All that was available to Teranishi at such short notice was a Ki-43-II.

The first patrol aloft that morning was a shotai of three "Oscars" led by Teranishi, followed by Ki-61s from the 68th Sentai (on a separate patrol led by Lt Akenori Motoyama) 30 minutes later. Larger formations of Ki-43s from the 68th and 13th Sentai would soon follow in response to the detection of the intruding P-47s.

Meanwhile, Kearby's pilots enjoyed a sprawling panorama from 28,000ft, enabling easy sighting of Teranishi and his wingmen some 8,000ft below them. Kearby dived and opened fire on the leading Japanese fighter from 300 yards. It burst into flames and crashed into the sea, its pilot having taken no evasive action. This action was witnessed and confirmed by Kearby's three accomplices. Gallagher then chased one of the two survivors out to sea, leaving the second fighter to attempt to hide in a cloud while Dunham positioned himself behind it. Kearby climbed back up to 26,000ft for one final wide sweep of the area.

Gallagher had by now disappeared from sight while chasing his Ki-43, the remaining pilots deciding to rendezvous with him on the way home. Shortly thereafter Dunham warned of approaching formations of bombers and fighters. The latter, around 12 in number, were cruising at 15,000ft about two miles offshore. These were Ki-43s from the 13th and 68th Sentai, which had scrambled last. Further out to sea, 12 Ki-48 "Lily" bombers headed home at 5,000ft, likely transiting to Boram from another field. Regardless, they wisely chose to stay clear of the impending engagement.

Kearby positioned his Thunderbolts 8,000ft above and behind the approaching Ki-43s, which were misidentified as IJNAF "Zekes" (A6M2s) and "Haps" (A6M3s). Still unseen, yet badly outnumbered, the P-47 pilots were nevertheless well poised to again test their trademark hit-and-run tactic. For the second time, the lead "Oscar" was cleanly removed in the first pass, the fighter spiraling into the New Guinea jungle just inland. This marked the end of Capt Shigeru Koyama, chutaicho of the 68th Sentai's 1st chutai. The Thunderbolts then dove into the other formations, including the four Ki-61s.

The "Tony" was a particularly fast fighter, and the "Oscar" of course was highly agile. The Thunderbolts, now at low altitude, with reduced airspeed and limited maneuverability, soon became engaged in a series of contacts marking a de facto fighting retreat. In this sequence of running battles, most of which were recorded on gun camera, the trio of USAAF pilots claimed seven Ki-61s and "Oscars" destroyed, separate to the two definite Ki-43 kills from the opening phase of the action.

A total of nine official aerial victories was apportioned between the Americans thus – Moore (two), Dunham (one) and Kearby (six). It was the latter uncontested score that resulted in Kearby being awarded the Congressional Medal of Honor. However, in reality, the IJAAF only lost two pilots, both flying Ki-43s. Teranishi's loss was a particular blow to the morale of Wewak's aviation units. Highly reputed for his "virtuous character," leadership skills and shrewd judgment, his participation in this action accords with his habit of leading combat missions on numerous occasions, despite command restrictions ordering him not to. Teranishi was also a cultured individual, in particular a lover of Western classical music, and also composer of the Imperial Army Academy school song. Exceptionally, at a time when Japan was predominantly a Shinto and Buddhist nation, Teranishi was a devout Christian who sometimes attended Sunday worship at the nearby Alexishafen missionary church.

Spurred on by the apparent success of October 11, Kearby led another four-aircraft sweep five days later in the hope that he could emulate the Congressional Medal of Honor mission. That same morning 18 P-47s from the 340th and 342nd FSs escorted B-25s while Kearby's formation strafed Alexishafen. On this occasion the quartet of Thunderbolts that had refueled at Lae arrived overhead Madang just in time to hear radio chatter from other 348th FG pilots that had been engaged by enemy fighters near Alexishafen. The 340th FS had been escorting two flights of B-25s at 9,000ft over Alexishafen when they were attacked from above by Ki-61s from the 68th Sentai and Ki-43s from the 13th Sentai. The fighters broke through the P-47s and downed three Mitchells.

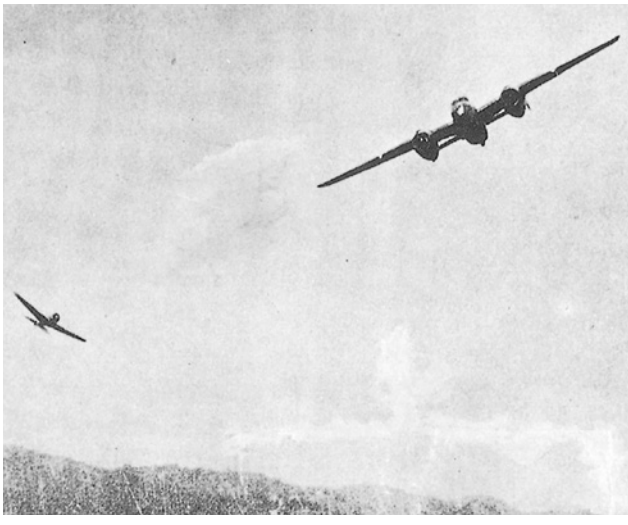
Meanwhile, the 342nd FS, flying top cover, dove at the Japanese fighters from 18,000ft. Hitting the enemy aircraft from above and behind, they chased the "Oscars" down to 3,000ft. The Thunderbolt pilots subsequently reported that their opponents conducted skilled evasive action, and that they were "eager and experienced."

Kearby's quartet had stayed out of the fight, maintaining altitude over Boram and waiting to engage on their own terms. They eventually targeted a mixed formation of Ki-43s and Ki-61s from the 13th and 78th Sentai, respectively, the latter unit having only just returned to Wewak following its partial transition to the "Tony."

In what proved to be a highly successful day for the 348th FG in terms of aerial victories, its pilots were credited with 13 kills, against a true score of six Japanese fighters downed (the 13th Sentai Ki-43s of Capt Rokuro Asahi and Sgt Maj Saburo Ikeda, along with four Ki-61s), without loss. Following an encounter with one of the downed "Oscars," Capt Max Wiecks reported, "I dived and again turned right and ran into another fighter. I shot at about a 45-degree deflection, and noticed tracers around him and saw one burst hit directly in the cockpit. After passing over him I looked back and saw him burst into flames."

On October 22, a return to Wewak as escorts for 38th BG Mitchells would have dire consequences for pilots from the 348th FG. Again, it would be the weather, rather than the IJAAF, that exacted the heaviest toll. Sixteen Thunderbolts from the 341st and

Unbeknownst to the quartet of P-47D pilots who engaged "Oscars" over Wewak on October 11, 1943, one of their victims was Lt Col Tamiya Teranishi, commander of the 14th Hikodan. (Dr. Yasuho Izawa Collection)



A Ki-43-II from an unidentified unit engages a B-25 strafer from either the 38th or 345th BG during one of the many attacks on Wewak in late 1943. Although a handful of Mitchells, and Havocs, fell to the skillfully flown "Oscars," it was anti-aircraft fire that posed the greatest threat to the medium bombers. (Author's Collection)

342nd FSs were assigned to the mission, refueling at Marilinen en route, and then led in the direction of Wewak by future ace Capt Walter Benz. Lurking above Kairiru Island were Ki-43s from the 13th Sentai, Benz suddenly shouting over the radio for everyone to check their tails when a shotai of "Oscars" flashed through the Thunderbolt formation from 3,000ft above them.

2Lt Ernest Ness was subsequently hit by fire from a Ki-43 when its pilot latched onto the tail of the Thunderbolt after pulling up from his initial diving pass. Ness successfully parachuted from his fighter and was posted missing in action. He was quickly captured by IJN forces occupying Kairiru Island, and they claimed post-war that he had died of wounds.

After the combat had ended, 2Lts George Burgess and Wynans Frankfort collected straggler 1Lt Harold Jacoby. Cognizant of their dwindling fuel, Burgess led the trio south toward Bena Bena, before turning east over the Ramu River and following it to Nadzab. Thick cloud hampered visibility, and they flew over the Ramu without sighting it. Burgess now decided to attempt the distant safety of the southern Papua coast. This was a despairing effort, and halfway across New Guinea's mountainous spine, Jacoby radioed that they should attempt to land at the emergency strip at Bulldog in the mountains northwest of Port Moresby. The trio proceeded in that direction for 20 minutes until Jacoby's fighter ran out of fuel and he parachuted over a kunai grass field west of Tidal Island. Frankfort buzzed the site but saw nothing, and Jacoby remains missing in action to this day.

With their own fighters close to fuel exhaustion, Burgess and Frankfort now found themselves over the vast Fly River Delta on the southern Papua coast. Frankfort bailed out at 1,200ft after his engine stopped, and although he landed in a tree uninjured, he then broke a rib and sustained bruises when he fell from it. In pain, Frankfort was safe in Australian Army hands a few days later. Meanwhile, Burgess also landed in a tree uninjured, and two days later he too was found by an Australian patrol that took him to the outpost at Kikori. He was duly returned home via an RAAF Catalina.

THE 248th SENTAI ARRIVES

In October 1943 IJAAF command decreed that the 248th Sentai, initially slated for home defense, would instead serve in New Guinea. On October 30, 32 Ki-43-IIs landed at Dagua, having flown in from Gifu, Japan, via Okinawa, Heito, Manila, Davao, Menado, Babo and Hollandia. The unit's pilots were experienced, with none of them having less than 400 hours in their logbooks. Indeed, the average was around 1,000 hours. Its two highest-scoring pilots, WOs Hajime Nishihara and Matsutaro Ogawa, both boasted openly that no matter how many shots were fired at them, they would always make it home.

The following day, the 59th Sentai returned to New Guinea from Manila, bringing with it 25 new Model IIs. However, en route, the unit's CO, Maj Takao Fukuda,

drowned when a failed engine forced him to ditch in Geelvink Bay. Maj Takeo Sato was slated to replace him, although in the interim Capt Shigeo Nango would take temporary command.

The next major "Oscar" confrontation with Thunderbolts took place on November 5 when the 342nd FS's deputy CO, Lt Col Robert Rowland, led another "power quartet" to Wewak, accompanied by Capts Francis Oksala, Edward Roddy and future ace Samuel Blair. There, they fought three separate Japanese formations, two flying Ki-43s and one Ki-61s. A total of 35 IJAAF fighters were reportedly involved, and although the P-47 pilots claimed six destroyed, only two "Tonys" were actually lost.

Two months earlier, on September 5, US and Australian airborne forces had captured a small village called Nadzab in the Markham Valley. The surrounding area contained a wide plain on which they started constructing an airfield. Further west, in the Ramu Valley, they commenced work on an airfield at Gusap, which the Japanese called Marawasa. The IJAAF believed that these two bases posed a deadly threat to their facilities at Wewak due to their close proximity to the latter. Furthermore, the airfields could provide support to Allied ground forces fighting Japanese troops on the approach to Madang. The first in a series of raids on these fledgling bases would take place on November 6 as the 4th Kokugun attempted to neutralize them before they could become fully operational.

Although IJAAF aircraft involved in this initial attack did not encounter any Thunderbolts, the following day pilots from the 341st FS clashed with what they described as some of the most effectively flown "Oscars" encountered to date. The fight spread from Nadzab to Saidor, as the Ki-43s provided fighter cover for Ki-21s from the 14th Sentai. The 341st's history records "the [Ki-43] pilots split up singly and seemed very experienced and were extremely aggressive. They employed tight aerobatics, and it was impossible for our pilots to get any shots except 45- to 90-degree deflection shots." Nevertheless, four "Oscars" were downed in this action – 1Lt Koichi Sakata (13th Sentai), Sgt Majs Sozaku Suzuki and Shiro Toda (248th Sentai) and Sgt Kikuo Shimanto (59th Sentai) – without loss to the 341st. A fifth, unnamed, Ki-43 pilot had a close shave after the action had ended when he narrowly avoided hitting the damaged Ki-21 flown by 1Lt Yasuda Norito as it landed on one engine at Madang airfield.

Later the same day Lt Col Robert Rowland was again leading Capts Oksala, Roddy and Blair when they were vectored to intercept contacts over Wewak while patrolling the airspace over Wau. The quartet claimed four "Hamps" destroyed following this engagement, Blair having fired at his opponent from such short range that his Thunderbolt was flipped onto its back from wake turbulence. No Japanese aircraft were lost, however.

Fourteen-victory ace Sgt Maj Tomio Hirohata (far left) and his groundcrew pose with their unusually marked Ki-43-II at But in October 1943. Assigned to the 59th Sentai (he had been posted to this unit in April 1940), Hirohata served in New Guinea from July 1943 until February 1944. Subsequently flying Ki-61s in the defense of Japan, he was killed on April 22, 1945, bailing out of a "Tony" that had suffered a mechanical failure. (Dr. Yasuho Izawa Collection)

On November 12 Col Kearby was transferred to Fifth Air Force's V Fighter Command, and he handed control of the 348th FG to Lt Col Rowland. Although this move was a promotion for Kearby, he was soon complaining he had traded in combat for paperwork.

Three days later, a largescale action took place when a formation of 88 B-25 strafers from the 38th and 345th BGs were dispatched to target both Wewak and Boram airfields. While waiting to link up with 342nd FS Thunderbolts overhead the Yonkie Dome rendezvous point, the Mitchells were attacked by at least 12 Ki-43s from the 248th Sentai. While trying to avoid the "Oscars," several B-25 crews spotted Ki-48s escorted by fighters approaching the USAAF airfield at Gusap. With the IJAAF now clearly forewarned of the Mitchells approaching Wewak, the "Lily" bombers aborted their mission and headed for home. As they did so, P-47s from the 342nd FS Thunderbolts and P-40Ns of the 35th FG attacked the Ki-48s and their escorts.

On this particular occasion the reaction of the "Oscar" pilots to being attacked was described as being "unexpectedly benign" by their USAAF counterparts. Indeed, one blue-gray Ki-43 took no evasive action whatsoever when attacked, while another used steep climbing and Immelmann turns to try to get away, and none attempted to escape by diving. All the "Oscars" engaged used a variety of aerobatics during combat, and the Thunderbolt pilots reported that in general their opponents appeared more intent on survival than attack. The 342nd was credited with five of the 23 IJAAF aircraft (one of which was a Ki-48) claimed by USAAF pilots following the engagement.

Five Ki-43s were destroyed, with the 248th Sentai having 1Lts Masaji Fueki and Hideyuki Shimizu and Cpls Sumio Sakoda and Ichiro Nakayama shot down, while the 59th Sentai lost Sgt Maj Tatsuo Sugano. These aircraft all crashed in the rugged Finesterre Range due east of Gusap.

A few days after these significant losses, the 248th Sentai learned that the ship transporting its ground echelon from Japan to Wewak had been sunk by a US Navy submarine. Of the 191 personnel on board, only five had been rescued.

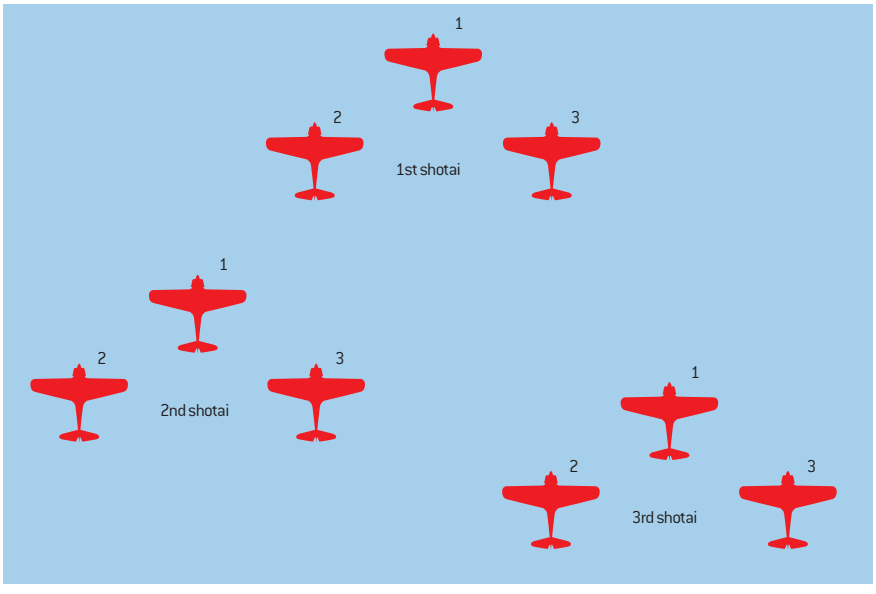
For the rest of November 1943, New Guinea's "Oscar" units flew ground attack missions to support Japanese infantry embroiled in the week-long Battle of Sattelberg. Targeting dug-in Australian troops five miles inland from Finschhafen, the attacking Ki-43s inflicted only light casualties.

On November 25 (the final day of action against Sattelberg mission station) Nomonhan Incident ace 1Lt Hitoshi Asano was caught up in an attack on Alexishafen just as he was landing his "Oscar." The aircraft was destroyed by an exploding bomb and the veteran pilot wounded in the shoulder. Asano was evacuated to Japan for medical treatment shortly

Photographed from a USAAF medium bomber during an October 1943 low-level strike on But airfield, this camouflaged Ki-43-II (with white fuselage and tail markings) parked in an earthen revetment was assigned to the chutaicho of the 59th Sentai's 1st chutai, Lt Shozo Fukuhara. He was killed in-theater in November of that same year. (Author's Collection)

thereafter, his departure costing the 248th Sentai a valuable pilot. Following recuperation, Asano spent the rest of the war instructing at the Akeno Flying School.

By late July 1943 the IJAAF had upgraded its radar capability at Wewak by installing two 50Kw radar sets at Wirui airfield, each with a range of about 120 miles. Another pair of 50Kw sets were installed near Alexishafen airfield. They were placed under the control of the 4th Kokugun's intelligence unit, and operational orders for Wewak's fighters record that this unit scrambled fighters several times based on radar intercepts. Other smaller sets would subsequently be installed at Lae and Cape Gloucester. New Guinea's rugged terrain often caused confusion due to signal returns, and the mountains to Wewak's south limited readings in that direction.



Both three-aircraft and four-aircraft formations were employed by the IJAAF throughout the New Guinea campaign. Which one to use was decided at chutai level, taking into account the combat experience of the incumbents. The three-aircraft formation, as illustrated here in chutai strength, was considered more suitable for experienced pilots capable of entering combat independently. The four-aircraft "Rotte" (the Japanese copied the German term "Rotte") formation emulated Luftwaffe tactics. It was considered better than the three-aircraft formation by some unit commanders, as the fighters could subsequently split into two sections to allow unproven Ki-43 pilots to follow more experienced leaders.

On November 30 the 13th Sentai was withdrawn to Wakde, in western New Guinea. The decision was unpopular with the unit's aircrew, who, by now, had become used to flying the Ki-43 and considered it more effective than the two-seat Ki-45 that the unit had also been flying since August 1942.

It was now clear to New Guinea's remaining "Oscar" pilots that the tide was turning against them, and this reversal was exemplified by the fate of the 248th Sentai. The month of November 1943 cost the unit 13 pilots killed or missing – about one-third of its pilot cadre. Due to severe airframe attrition, its complement of airworthy Ki-43s stood at barely one chutai by the beginning of December. Furthermore, the loss of most of its groundcrew at sea forced the sentai to borrow personnel from other units. In any other theater the 248th would have been recalled home. However, this was New Guinea, thousands of miles from Japan. It would have to soldier on.

Those "Oscars" that made it to Wewak as replacements for aircraft lost on airfields or in combat were usually flown from Tachikawa, in western Tokyo, to Manila, in the Philippines, by civilian pilots, where they were handed over to IJAAF units. Army officers from the ranks of captain to lieutenant colonel were attached to Nakajima factories and attended to such transfers, ensuring that extra IJAAF pilots were available to make deliveries if required. Civilian test pilots at the Ki-43 factories held senior positions and were highly revered, with their advice much respected. When it came to supplying pilots and key spare parts to the New Guinea theater, this was entrusted to the Southern Air Company (Nampo Koku KK), a civilian air transport firm based in Manila that ran bi-weekly services to Soerabaya and on to New Guinea using a range of transports, including converted Ki-49 "Helen" bombers.

ESCORTING LIBERATORS

December 1, 1943 saw P-47s from both the 36th and 341st FSs escort three squadrons of B-24s from the 90th BG to Wewak at medium altitude. Prior to their Port Moresby departure, a Liberator had returned from a weather reconnaissance of the target. The solitary bomber had alerted the IJAAF to the strong possibility of an enemy raid and, accordingly, around 20 Ki-61s and 30 Ki-43s (the latter from the 59th and 248th Sentai) were scrambled in separate formations.

The Thunderbolts approached Wewak at a much higher altitude than planned, while a misunderstanding over the radio between the lead aircraft in each of the Liberator squadrons resulted in the B-24s crossing the target area in the wrong order at the wrong time. To a large degree the Thunderbolts successfully deterred the Japanese fighters from reaching the leading Liberators. However, those at the rear of the bomber stream endured climbing front quarter attacks. Pressed to close range, these passes were flown with both skill and aggression. Indeed, in one particular case, a chutaicho flew directly through the Liberator formation. Three bombers were downed, with one reportedly falling to anti-aircraft fire, another to an "Oscar" and the third to a Ki-61.

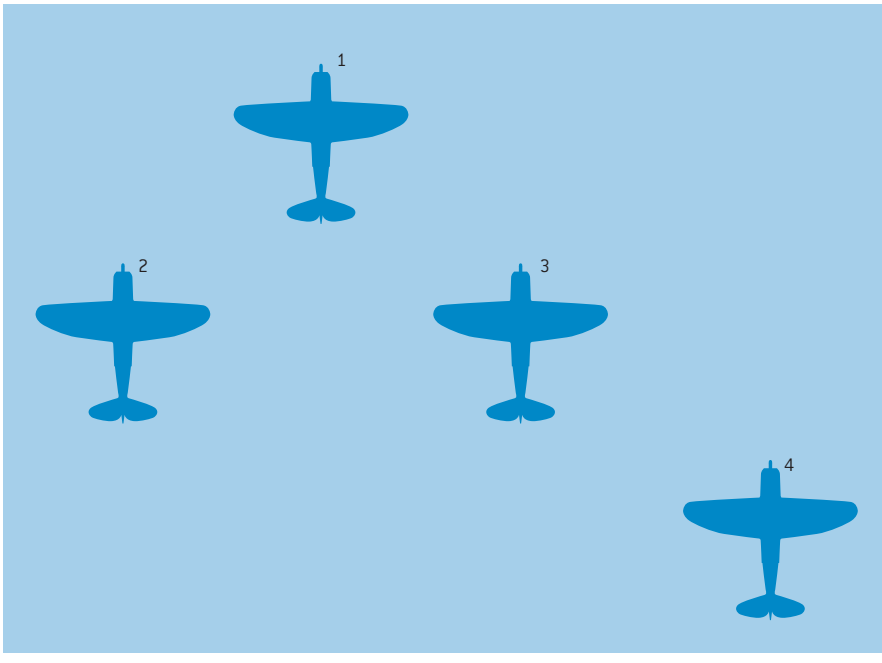
After successfully deterring the initial fighter attacks, it appears the Thunderbolts gave chase to the "Tonys," which allowed the Ki-43 pilots to close in on the Liberators. The 341st's combat log records "the enemy was experienced and eager for combat – his favorite tactic was tight turns and aerobatics." This was clearly a different group of "Oscar" pilots to those encountered over Gusap two weeks earlier. The aggressive IJAAF pilots claimed five bombers and two fighters destroyed, with Wewak's anti-aircraft gunners being credited with two more bombers shot down. The Thunderbolt pilots claimed four Ki-61s destroyed without loss, and the Liberator gunners another six fighters. However, these "kills" mark another high point in USAAF over-claiming, for no Japanese fighters were downed. Chutaicho of the 248th's 2nd chutai, 1Lt Tozuka Nobuyoshi, was credited with two of the four Liberators claimed by the unit, and he was promoted to captain shortly thereafter.

Despite the stout defense mounted by the IJAAF pilots, the B-24s' bombs still leveled the barracks used by the 81st Independent Chutai and the 68th and 248th Sentai at Dagua. The same ordnance destroyed a number of aircraft on the ground, including four Ki-43s from the 248th Sentai. With no accommodation and few aircraft, pilots from the latter unit were forced to move to Hollandia for ten days. From there they flew training missions, including night flying, while their Wewak base underwent refurbishment.

On December 3 Col Kearby accompanied three Thunderbolts to Wewak, looking to emulate his six-victory success. Leading the mid-morning sweep from Nadzab, he arrived overhead Wewak at 28,000ft. Kearby soon sighted more than 25 Ki-43s below him flying southeast along the coast. Using his superior altitude to full advantage, he quickly claimed three of the four IJAAF fighters credited to the 342nd FS. Once again there were no Japanese losses.

Nine days later the IJAAF targeted Gusap once more, with 24 Ki-43s from the 59th and 248th Sentai escorting nine Ki-49s from the 7th Sentai, with a further 20 Ki-61s providing top cover. The "Tonys" lost the main formation in overcast and several Ki-43 pilots turned back with mechanical problems. The "Helens" bombed

Gusap from 12,500ft prior to being intercepted by Warhawks and four P-47s from the 9th FS – the USAAF pilots reported engaging 15 "Oscars." An aircraft from the 7th Sentai's 1st chutai was shot down, two more were lost in poor weather and three others returned to base badly shot up. The Thunderbolt pilots arrived at the end of the action and were awarded no victories, although they did note that "the enemy pilots appeared experienced and willing to fight." No Ki-43s were lost, although the P-40N pilots claimed three kills.



On December 17, 341st FS Thunderbolts intercepted around 30 fighters attacking Allied forces on the Arawe peninsula – the unit had also successfully engaged enemy aircraft, identified as IJNAF Zero-sens and B5N "Kate" torpedo-bombers, the previous day. Again, an IJNAF type in the form of the D3A "Val" dive-bomber was encountered, with no fewer than eight being claimed by the P-47 pilots. Two of the remaining three victories credited to the 341st were Ki-43s, with the final success being a Ki-46 "Dinah" reconnaissance aircraft. The only IJAAF fighter lost was the "Oscar" of 2Lt Masanao Masuzawa from the 59th Sentai. Two of the "Val" claims were made by 2Lt Francis Donar and Capt Howard Tuman from the 69th FS/58th FG who were on secondment to the 341st to gain combat experience. Both had barely been in-theater a few days, this action marking the first time pilots from the 58th FG had seen action.

Four days later the 248th Sentai was assigned the job of escorting a convoy bound for Wewak with much-needed supplies. The first patrol of covering fighters rendezvoused with the ships about 120 miles northwest of Wewak at dawn, and they duly circled the vessels for an hour. The convoy eventually anchored in Wewak harbor and commenced unloading before dawn the following morning (December 22), with the 248th sending aloft its first covering fighters at 0550 hrs.

A full group of B-25s and four squadrons of P-38s targeted Wewak later that same day, with four "Oscar" pilots from the 248th breaking off their harbor patrolling to join 30 IJAAF fighters (including Ki-43s from the 59th Sentai and Ki-61s from the 68th Sentai) that had been scrambled to engage the USAAF aircraft. Protecting the main bomber force at 16,000ft was the 341st FS, led by Col Kearby. Sighting two enemy fighters (which he misidentified as "Zekes") 8,000ft below him, Kearby latched onto the leader's tail and opened fire from a distance of about 300 yards. He reported that the "Zeke" caught fire and the pilot bailed out. It appears likely that Kearby had shot down 248th pilot 1Lt Yoshiharu Maekawa. Flying close behind Kearby,

Throughout operations in New Guinea in 1943–44, USAAF fighter groups used the four-aircraft flight as a standard formation. These could break down into two-fighter flights during combat depending on the pilot's experience, although considerable emphasis was placed on sticking to one's flight leader. Col Neel Kearby's selective attack missions flown by handpicked pilots favored forays into Wewak airspace by just four P-47s, which regularly broke up into two flights of two once combat commenced. With sufficient numbers of Thunderbolts available throughout the New Guinea campaign, standing patrols were rarely flown by fewer than four fighters. Usually, Thunderbolt squadrons would field 16 fighters in four flights of four, although units would sometimes fly in formations of 12 or eight aircraft, with the occasional patrol consisting of just four P-47s.

ENGAGING THE ENEMY

The Thunderbolt enjoyed superior speed to all Ki-43 models at low to medium altitudes, allowing American pilots to get in concentrated bursts of fire at close range during stern or high-angle attacks. Given the P-47's speed advantage, Ki-43 pilots required skill in order to retaliate against a fast-moving target in such circumstances.

All P-47Ds involved in the northern New Guinea campaign from the summer of 1943 through to the spring of 1944 were fitted with N-3B optical reflector gunsights, which were part of the N-3 family that were by far the most widely used USAAF gunsight of World War 2. Although the N-3 was not a great gunsight, it was available in large numbers, cheap to acquire and small enough to fit most aircraft cockpits.

V Fighter Command's Thunderbolt pilots focused on employing "hit and run" tactics finessed by Col Neel Kearby, the chief architect of Thunderbolt *modus operandi* in-theater. The P-47's lack of maneuverability meant it was easily out-turned by the Ki-43. However, the height advantage typically enjoyed by the Thunderbolt usually allowed pilots to out-dive the Ki-43 when employing effective ambush tactics. Ideally, this meant "dive-and-zoom" tactics wherever possible, for the Thunderbolt was at its most vulnerable when caught "low and slow." The fighter's robust armament of eight 0.50-cal Browning M2 machine guns made it the most heavily armed USAAF fighter of the war.

A particular problem for both sides in New Guinea was that the Perspex canopies of their fighters could fog up badly during steep dives to low altitude, especially in conditions of high humidity. This issue was sometimes exacerbated by the Thunderbolt's cockpit air-conditioning. Another effect of the high humidity was the appearance of white vapor trails from the trailing edges of wingtips during high-G turns in combat. In many cases, pilots from both sides wrongly interpreted the trails as smoke emanating from a foe that they had just hit.

Capt Samuel Blair claimed a second "Zeke" – Maekawa's wingman Sgt Takeo Nakatsuka. The third Ki-43 pilot lost in the wide-ranging combat was the 59th Sentai's Sgt Akijiro Kato. Exactly who downed whom is open to some interpretation as USAAF pilots claimed 19 enemy fighters destroyed when only four were actually lost.

During the morning of December 26 the Japanese learned that a major Allied force had landed at Cape Gloucester (known as Tuluvu to the Japanese) on the western tip of New Britain. Both IJAAF and IJNAF units would conduct separate attacks to deter the amphibious assault. A spirited IJNAF attack that morning did indeed inflict serious damage on the invading force, but at a high cost – 13 "Vals" and four Zero-sens were shot down.

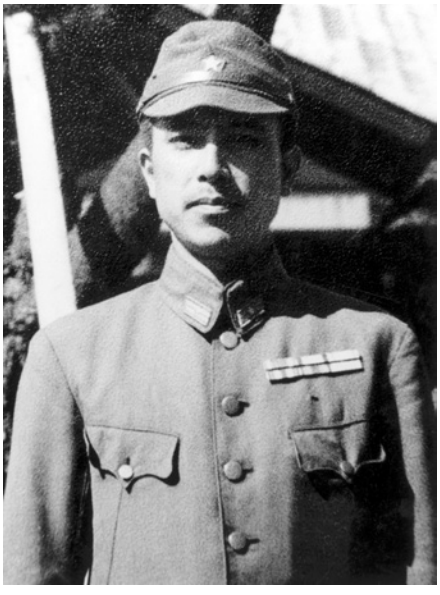
The IJAAF attack came much later in the day, and it was beset with problems from the start. A 74th Independent Chutai Ki-46 reconnoitered the target area beforehand, providing weather information and identifying targets for heavy bombers. IJAAF planning had not anticipated effective American radar coverage from US Navy destroyers overseeing the landing. Seven Ki-49s from the 61st Sentai took off from Alexishafen, escorted by a mixed fighter force of nine Ki-43s from the 248th Sentai and ten Ki-61s from the 68th and 78th Sentai. One "Helen" returned to Alexishafen with engine trouble, leaving six to target Cape Gloucester.

Sixteen P-38s and 38 P-47s from the 36th and 342nd FSs were loitering in the area when they received warning that an incoming Japanese formation had been detected by the destroyers' radar. The Ki-43s were initially intercepted by the Thunderbolts, 248th Sentai CO Maj Shinichi Muraoka later reporting that although his pilots were at first overwhelmed, they claimed two P-47s destroyed. Inconclusive combat resulted in no IJAAF fighter losses.

The Thunderbolts repeatedly attacked the six Ki-49s, which the USAAF pilots misidentified as G4M "Betty" bombers. They also wrongly reported encountering "multiple bomber formations," when in reality the pilots were actually attacking the same bombers that had simply split up and were now being repeatedly engaged. This mistake resulted in the 342nd claiming 15 bombers destroyed (four were credited to 1Lt Lawrence O'Neill, giving him ace status, and two to Capt Edward Roddy), on top of the three that gunners on board the US Navy ships off Cape Gloucester were also credited with. All six Ki-49s were indeed destroyed, with three falling to USAAF fighters and three to shipborne anti-aircraft fire.

The fog of combat was clarified by the Lightning pilots circling above the action. They had sighted the six Ki-49s in arrowhead formation ten miles northeast of Umboi Island as they approached the

Lt Col Dick Rowland (center) took over command of the 348th FG from Col Neel Kearby on November 12, 1943. He is seen here with his groundcrew and their P-47D-4 42-22684 at Saidor, this aircraft having replaced P-47D-2 42-8096 several weeks after Rowland's promotion. His original Thunderbolt was reassigned to the 58th FG. An eight-victory ace, Rowland claimed two "Hamps" and a "Zeke" destroyed – these aircraft were probably Ki-43s. (Author's Collection)



CO of the 248th Sentai, Maj Shinichi Muraoka was heavily involved in the aerial action over northern New Guinea up until his death in combat fighting Warhawks from the 7th FS/49th FG near Saidor on January 2, 1944. (Dr. Yasuho Izawa Collection)

convoy at about 10,000ft. At the same time a widespread dogfight unfolded between Ki-43s and P-47s from the 36th and 342nd FSs west of Umboi Island. The "Helens" briefly remained immune to fighter attack while targeted by the heavy anti-aircraft fire that shot the lead bomber (flown by Capt Takeo Ishige) and its two wingmen down. Two surviving Ki-49s then broke formation and attempted to flee back to Alexishafen, only to be shot down by Lightnings. This left a solitary bomber to press ahead regardless until it too was downed low over Borgen Bay by 348th FG CO Lt Col Rowland.

While the 342nd FS went after the bombers, the 36th FS primarily fought the 248th Sentai. 1Lt Thomas Huff later reported, "We were flying approximately two miles northeast of Cape Gloucester at 11,000ft when a string of enemy aircraft spiralled down from 'ten o'clock high' and just out of range. My flight leader made a 180-degree turn to the right [so as to engage them]."

In its last battle of 1943, the 248th Sentai had fought 16 P-47Ds from the 36th FS with eight Ki-43s, shooting down 2Lts Arthur Heckerman and Devin Gilchrist (both of whom bailed out successfully and were rescued) without loss. The 342nd FS had 2Lt James E. Pratt killed, the P-47 pilot last being seen in a long, steep dive in pursuit of a Ki-43. He then disappeared after entering cloud at 6,000ft, and it is possible that he was accidentally shot down by friendly anti-aircraft fire from nearby destroyers.

Despite his pilots having downed possibly as many as three P-47s without loss, CO Maj Muraoka was sufficiently dismayed with the day's results to report, "When we met Thunderbolts they immediately surrounded and separated us from protecting the Donryu [Ki-49s]. They attacked from above, outnumbering us three or four to one, however, we lost no fighters. In conclusion we did not lose, and a Hayabusa that failed to drop one of its fuel tanks survived. I am of the firm opinion that the Thunderbolt can be shot down if we take advantage of its mistakes. Four enemy Thunderbolts only amount to one or two planes. Due to superb flying, our pilots escaped the combat. We had only to prevent the enemy from making surprise passes. However, against such passes, protective armor and extra fighter top cover are urgently necessary."

Muraoka concluded by underlining the effectiveness of American radar and communications, and the necessity to further refine fighter tactics. For reasons best known to himself, he also added the peculiar recommendation that a younger and more vigorous Hikodan commander should lead future missions.

Overall, American fighter pilots were credited with a staggering 63 aircraft destroyed on December 26 when, in reality, just three bombers and a Ki-61 from the 78th Sentai had been shot down. The tally of "victories" for this action was possibly the most outlandish example of USAAF over-claiming made in the Southwest Pacific theater. Nonetheless, the IJAAF was so shaken by the day's bomber losses that it would never again undertake a daylight bombing mission with the Ki-49 in New Guinea.

As the new year dawned in New Guinea, "Oscar" pilots stationed there could only see a bleak future. Allied air power was clearly on the increase, and it was obvious that larger numbers of fighters were now being encountered. The new enemy airfields at Gusap and Nadzab were beginning to allow USAAF fighters and bombers to operate

in previously uncontested areas of northern New Guinea. Furthermore, the Allied aircraft had increased endurance, which meant they could engage IJAAF fighters for longer.

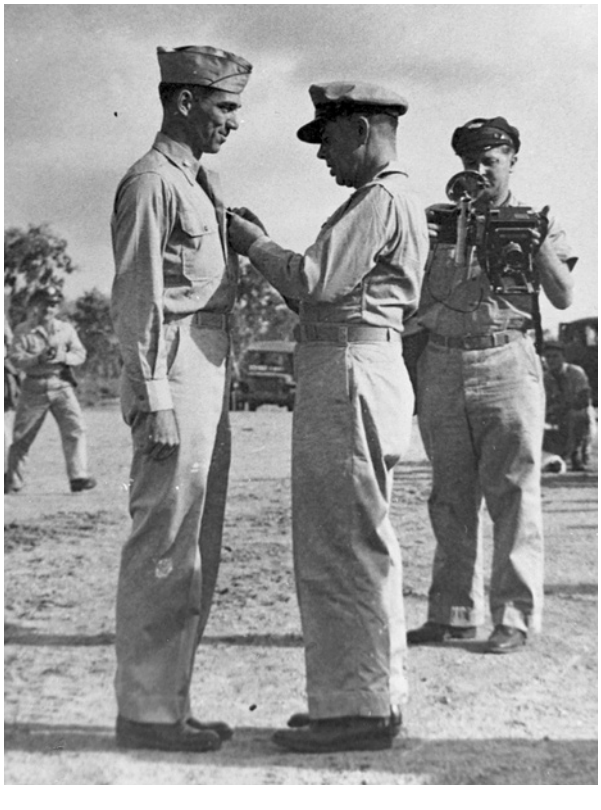
The year started unfavorably when, on January 2, Maj Muraoka was killed near Saidor during an engagement with Warhawks from the 7th FS/49th FG. He was replaced by former 4th Sentai CO Maj Takebumi Kuroda.

With the Fifth Air Force continuing to routinely target Wewak, the IJAAF bolstered the fighter strength in-theater on January 3 when the 63rd Sentai's 2nd and 3rd chutai finally reached But airfield after being transferred in from northern Honshu. The unit's new Model IIs had been customized with experimental 12.7mm cannon instead of the standard version prior to their departure – the fighters were not redesignated in the wake of the armament modification.

On the afternoon of the 3rd Col Kearby led a trio of 341st Thunderbolts aloft on a sweep over Wewak. Two of the fighters had to abort the mission with engine problems, however. That morning Kearby had shot down a Ki-21 bomber near Wewak on an earlier sweep. He and his wingman had loitered for 15 minutes in Wewak's airspace before a solitary "Oscar" appeared below them at 1445 hrs at 4,000ft heading from But to Boram airfield. Kearby fell upon it, firing from astern at a distance of 1,000 yards. Strikes on the airframe caused the fighter to burst into flames. "The fire went out and the 'Zeke' [as the Ki-43 had been misidentified] continued on its course. I made a 360-degree turn and came in from dead astern once more. No evasive action was taken by the enemy airplane." Now down to 1,000ft, Kearby fired once more and the fighter was again seen to trail flames before these were extinguished. The aircraft eventually crashed into the sea.

Despite a robust and apparently conclusive attack, IJAAF records fail to list the loss of a Ki-43 in combat that day. It is possible that the solitary "Oscar," engaged at a relatively low altitude, was on a delivery or administrative flight with a service squadron pilot at the controls. If so, his loss would not have been chronicled in fighter unit records.

The 63rd Sentai's 1st chutai arrived at But (with 11 more Ki-43-IIs also equipped with experimental guns) on January 11. Five days later, during the 63rd's very first combat with USAAF fighters, the unit lost four pilots to Warhawks from the 35th FS – the P-40 pilots claimed 19 kills! A subsequent delivery of 12 attrition replacement "Oscars" for the 63rd Sentai was nearly wiped out on January 24 when the 2nd and 3rd chutai aircraft were caught on the ground refueling at Hyane airfield on Los Negros, in the Philippines, during a bombing raid. All eight fighters from the 2nd chutai were burned out, but the remaining four "Oscars" were saved when groundcrew pushed them under the cover of nearby trees.



Col Neel Kearby is presented with his Congressional Medal of Honor by the commander of the Fifth Air Force, Gen George C. Kenney, at the 348th FG's Finschhafen base in early 1944. A number of other P-47 pilots also received decorations at this ceremony, including Kearby's replacement as CO of the 348th FG, Lt Col Dick Rowland. (Author's Collection)

Nine days earlier, on January 15, the expanding USAAF bases in the Ramu Valley had again come under attack when Capt Shigeo Kojima led 12 "Oscars" from the 248th Sentai on a strafing raid. Several aircraft were damaged at Gusap, including two Thunderbolts from the 35th FG, by Kojima's fighters prior to them climbing for altitude so as to provide protection for Ki-61s strafing Nadzab. The latter were also protected by 11 Ki-43-IIs from the 59th Sentai, whose Capt Shigeo Nango surprised four P-40Ns from the 388th BS/312th BG on a training patrol during the course of the mission. All four Warhawks were badly shot up, and Nango's wingman was credited with downing the aircraft flown by 388th BS Operations Officer Capt Glen Cathcart. Undertaking a proficiency flight on a Warhawk pending his unit's transition to A-20G Havocs, Cathcart was killed. Two more P-40Ns were destroyed in crash landings at Gusap.

The IJAAF fighter pilots claimed all four Warhawks downed, while 68th Sentai Ki-61 pilot WO Takashi Noguchi (wrongly) claimed two transports as aerial victories. Although one of Kojima's Ki-43s was damaged by ground fire, all aircraft returned safely to base. In another stellar example of IJAAF over-claiming, 4th Kokugun HQ at Hollandia was told that 34 American aircraft had been "damaged or set afire" on the ground during the strafing attacks.

Wewak was targeted on January 18 in retaliation for the Ramu Valley strafing operation, with the four Lightning and two Thunderbolt (9th and 340th FSs) squadrons involved being challenged by a significant number of IJAAF fighters. With the recently arrived 63rd Sentai bolstering numbers, no fewer than 56 Japanese fighters intercepted their USAAF counterparts with an altitude advantage. The widespread conflict that ensued involved 21 "Tonys" from the 68th and 78th Sentai and 35 "Oscars" from the 59th, 63rd and 248th Sentai. The latter unit had scrambled ten Ki-43s, led by unit CO Cap Shigeo Koshima.

It soon became clear to the USAAF pilots involved in the action that the recently arrived 63rd Sentai was employing different tactics to those previously seen in-theater. One American aviator noted post-mission that "The enemy pilots apparently were experienced, as they would lead our planes to treetop level and turn sharply. The enemy consistently dived to the deck and disappeared throughout the entire combat. We could not pursue them because of our lesser maneuverability and their extremely low altitude."

An unidentified pilot stands by the tail of a Ki-43-II from the 63rd Sentai's 2nd chutai at a snowy Tomakomai airfield, on Hokkaido, in November 1943. Shortly after this rare photograph was taken, the 63rd deployed to northern New Guinea. (Dr. Yasuho Izawa Collection)

Nevertheless, the American pilots claimed 14 victories and their Japanese opponents 13, against actual losses of two Lightnings in combat (a third was downed by an errant USAAF drop tank) and four IJAAF fighters. Only two Ki-43s were downed, but the losses presaged a heavy blow to morale. Both Capts Koshima and Tomio Matsumoto, CO of the 63rd's 2nd chutai, failed to return. Matsumoto's

The pride of Capt Shigeo Nango, executive officer of the 59th Sentai, this "Oscar" wore the manufacturer's number 6010, making it a Model II "naka ki" built by Nakajima in the middle period of the Ki-43-II's construction run. The fighter, carrying a 200-liter drop tank beneath its port wing, was one of 25 new airframes that arrived at But from Manila on November 1, 1943. (Dr. Yasuho Izawa Collection)

comrades asserted that he had shot down three P-38s before ramming a fourth, which cost him his life. This is possible, as during the combat 1Lt Bill Ritter's P-38H collided with a Japanese fighter.

Wewak was targeted yet again on January 23, with the Fifth Air Force sending 35 B-24s to bomb the town's airfield complex. Four Lightning, two Warhawk and two Thunderbolt squadrons would escort the heavy bombers. A total of 51 Ki-43s and Ki-61s opposed them, including eight "Oscars" from the 248th Sentai. The IJAAF lost four Ki-43s in combat, and a single "Tony" from the 78th Sentai was destroyed in a mid-air collision. A Liberator and a P-38 were credited to the 248th's 1Lt Keiji Koga at a cost of veteran pilots 1Lt Nobuyoshi Totsuka (2nd chutai CO) and Sgt Maj Akiharu Saito. Japanese claims totaled 12 American aircraft, contrasting to actual losses of two P-38s (one collided with the 78th Sentai Ki-61 that was lost, and the other was shot down) and a P-40N from the 7th FS that fell to a Ki-43. Several B-24s sustained hits but all got home.

Due to the multifaceted and widespread nature of this action, no conclusive evidence exists to identify who dispatched the 59th Sentai's executive officer and high-scoring ace Capt Shigeo Nango, although it appears likely he was claimed by a Warhawk pilot. As previously noted, the IJAAF lost four Ki-43s during the encounter, one of which was flown by Nango's devoted wingman, Sgt Tanaka. According to the unit's CO, Lt Col Takeo Sato, Nango was leading the 1st chutai in a frontal attack on the Liberators when American fighters bounced the "Oscars" from above. Sato stated that Nango then disappeared well east of Kairiru Island, about 18 miles out to sea. The 59th later conducted a fruitless search along the coastline for the downed ace.

By the end of January Maj Takebumi Kuroda's 248th Sentai had just nine serviceable Ki-43s, with four more undergoing repairs. To try to even out the number of available fighters on each airfield, it had briefly deployed to Boram, where the unit was now reduced to 15 pilots comprising five officers and ten other ranks. However, this depleted number fails to divulge a more significant conundrum facing the 4th Kokugun's fighter sentai. At this juncture, the shortage of fit pilots was reaching crisis point, their ranks having been thinned by disease – dysentery and malaria were

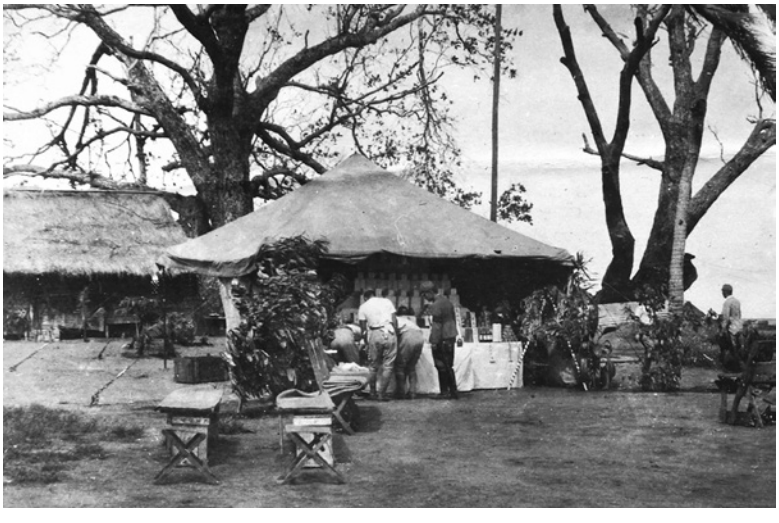
the two main ailments, and the condition of pilots was worsened by a lack of adequate nutrition and combat fatigue. Replacements that had made it to Wewak still required training to get them combat ready. Others had been assigned to support units to deliver critical replacement aircraft from the Philippines.

Conversely, USAAF air power in New Guinea continued to go from strength to strength. For example, on February 2 eight P-47Ds from the 311th FS undertook the 58th FG's first combat mission. Based at Dobodura, the Thunderbolts refueled at Finschhafen before escorting C-47 transports to Saidor. Since its arrival in-country, the group had operated hand-me-down airframes transferred from the 348th FG. Over the next few months scores of these war-weary fighters would be destroyed in operational accidents. Accordingly, the group's extraordinary loss rate dissuaded V Fighter Command from committing the 58th to combat. A taste of the group's operational shortcomings was exhibited on this first mission on the 2nd when 2Lt Ray Evans dropped his fuselage tank and then, according to the mission report, "made an emergency landing with no apparent damage to plane or injury to self. Reason undetermined." Four more Thunderbolts returned early to Finschhafen, three with engine trouble and the fourth to escort his wingman, despite the fact the latter was already covered by two P-47s.

On February 3 nearly 100 Liberators and Mitchells, escorted by P-38s, P-40s and P-47s (from the 340th and 342nd FSs) again struck Wewak's airfields. The Thunderbolts claimed eight of 15 aerial kills credited to V Fighter Command, yet only one IJAAF aircraft was lost – the 248th Sentai "Oscar" flown by 1Lt Keiji Koga. The following day, Mitchells escorted by 342nd FS Thunderbolts strafed But and Dagua airfields and supply areas surrounding Marienberg and Madang-Alexishafen. Thunderbolt ace Capt Edward Roddy claimed a "Helen" bomber for his eighth, and last, aerial victory during the course of the mission.

Although no IJAAF fighters were lost in the air, the strafing B-25s exacted a heavy toll on the "Oscars" at But airfield, where seven aircraft from the 248th Sentai were destroyed. Following this humiliation, unit commander Maj Takebumi Kuroda ordered several of his pilots to undertake retaliatory attacks against the American airfields in the Ramu Valley. A gallant Japanese account states that 1Lt Hachiro Murakami singlehandedly strafed Nadzab, but was "unable to see detailed results" because of the fading light. Perhaps the lack of results was due to the limited success of the raid – Murakami's alleged attack fails to rate a mention in USAAF records.

In the aftermath of the Wewak airfield missions of January and early February, a 342nd FS intelligence report dated February 5 stated that both Wewak and Boram held no operational



Preparations are made by personnel from the 59th Sentai for a memorial service at But airfield several days after the loss of Capt Shigeo Nango on January 23, 1944. This photograph was taken looking northwards toward the nearby beach. (Courtesy of George Eleftheriou)

airframe inventory save stacks of wrecked aircraft piled up between the bases. For the dejected IJAAF personnel at these sites, the almost daily poundings of Wewak's airfields had systematically wiped out their inventory. Nonetheless, plans were afoot in Tokyo to commit two more fighter regiments to New Guinea despite the situation being clearly beyond redemption.

This Ki-43-II was one of 30 "Oscars" that the 248th Sentai lost to strafing attacks during its time at Wewak. The sentai's unusual "flying V" tail markings can just be seen in this view, their application in white denoting the fighter's assignment to the 1st chutai. (Author's Collection)

The very same day the report was compiled, the bulk of the 77th Sentai assembled at Chiang Mai, in Thailand, just prior to transiting to Singapore. Unit personnel were told that their new HQ was Hollandia, in West New Guinea. The situation in-theater dictated that advance detachments would stage operations from Wewak's airfields. The announcement drew a mixed reaction from those present, as it was by now well known among IJAAF aircrew that New Guinea was a "green desert" – a place from where one never returns alive.

When the 77th Sentai reached Singapore on December 10, its officers were updated on the situation at Wewak. They were told that the entire 4th Kokugun strength comprised just 21 operational fighters – 13 Ki-43-IIs (of the 59th, 63rd and 248th Sentai) and eight Ki-61s (of the 68th and 78th Sentai). The 77th was therefore being sent to New Guinea along with the similarly equipped 33rd Sentai to bolster this meager force.

Five transport-configured Ki-49s, each carrying 13 passengers, would deliver the advance ground echelon to Hollandia. The 77th total strength on paper was listed as 40 pilots and 120 support personnel (35 men each in the 1st, 2nd and 3rd chutai and 15 in the headquarters detachment). However, unlike previous units that had arrived in-theater with a cadre of experienced aviators, the majority of the 77th's pilots were untested in combat. Many of them were little more than cadet pilots, with 200 flying hours or less, led by several experienced men with an average of 1,100 flying hours each. The sentai would fly 36 Ki-43-IIs to New Guinea. For operational delivery purposes, each chutai was initially divided into a buntai of six aircraft.

While both the 33rd and 77th Sentai were preparing for their move to New Guinea, on February 14 59th Sentai ace WO Katzuo Shimizu dropped a ta-dan aerial bomb into a flight of three "B-25s" (actually A-20Gs from the 89th BS/3rd BG) strafing Dagua and claimed all of them downed – none were lost. Although the Havocs were supposed to be protected by P-47s from the 41st FS, at various stages during the mission as many as 12 "Oscars" got past the Thunderbolts and made unsuccessful beam and stern attacks on the bombers from both the "three" and "six o'clock" positions. It is possible that 2Lt John Hartsfield's Thunderbolt sustained hits during combat with the 59th Sentai, or perhaps his mount was damaged by one of Shimizu's aerial bombs. The 59th's 1Lt Shigeo Kitahara was killed during the clash.

On February 14, 1944, 59th Sentai ace WO Katzuo Shimizu dropped a ta-dan aerial bomb into a flight of three "B-25s" (actually A-20Gs from the 89th BS/3rd BG) that he spotted strafing Dagua and duly claimed to have downed them all – none were in fact lost. However, he may have damaged the P-47D of 41st FS pilot 2Lt John Hartsfield, who later crashed to his death. Shimizu claimed two more Thunderbolts with ta-dan bombs on February 15, although on this occasion his own fighter was also badly shot up. He would survive the war with 18 victories to his name. (Dr. Yasuho Izawa Collection)

What subsequently happened to John Hartsfield defines the tragedy and harshness of the remote New Guinea theater. We do not know why his engine failed at 18,500ft when flying back to Gusap, after which Hartsfield managed to glide his fighter about 20 miles. He bailed out over the village of Pibu, five miles from Japanese-held Annenberg. Other Thunderbolt pilots later flew low over the badly smashed wreck of Hartsfield's fighter, which caught fire upon hitting the ground. Neither its pilot nor a parachute were seen, and it was assumed that Hartsfield had died in the crash. The decision was made not to send in a patrol to recover the body due to the location of the wreckage being well within enemy lines.

About a year after hostilities had ended, an Australian patrol officer scoured the Madang area looking for wartime aircraft wrecks. Having received information that one existed at Pibu village, he trekked there on May 11, 1946 and was handed human remains by villagers who took him to an open grave, marked by a piece of armor plating from a nearby wreck. He was then taken to the wreckage of Hartsfield's Thunderbolt, about a mile away, identified by the serial number on the tail. The villagers related how they had seen flames coming from the big fighter just before the pilot jumped from low altitude. He landed in a large tree, from which he then fell, crushing his ribs and breaking his thigh. Hartsfield passed away shortly thereafter. Villagers duly retrieved his body, dug a grave and buried the pilot. A Japanese patrol visited the village shortly thereafter and took the pilot's watch, identity discs and revolver, but did not disturb the grave. Hartsfield's remains were later returned to the USA.

The day after 2Lt John Hartsfield died, Ki-43s fought both P-40Ns and P-47s from the 35th FG over Wewak. WO Yukiharu Ando was among the pilots from the 248th Sentai involved in the action, diving to wave-top height to escape pursuit. Several Warhawks stubbornly remained on his tail, however, and after their first pass Ando's "Oscar" hit the surface of the water, sending up a plume of spray. The fighter bounced back into the air and the pilot recovered control, only for P-40 pilot 1Lt Harold Sawyer to fire off another burst that conclusively drove Ando and his aircraft into the sea.

Meanwhile, ebullient from his "victories" of the previous day, WO Katzuo Shimizu scrapped with a pair of Thunderbolts, both of which he claimed by dropping more ta-dan aerial bombs. On this occasion his Ki-43 was also badly shot up, and Shimizu was lucky to make it back to But airfield. No P-47s were downed.

With the 33rd and 77th Sentai now on the way to reinforce Wewak, on February 19 ten pilots from the 59th Sentai boarded two Ki-49s and headed back to Japan, which they reached a week later. The unit left behind only four serviceable Ki-43-IIs, which were transferred to the 248th Sentai along with five pilots who had flown insufficient hours to qualify for a return home. The 59th was reconstituted and reinforced in Japan, becoming operational again in June 1944 at Ashiya in the western defense district following re-equipment with the Ki-61.

On February 21 the 33rd Sentai reached Hollandia, followed a week later by the 77th. Included in the latter's inventory were late-build Ki-43-IIs that incorporated 12mm armor plating to protect the pilot and fuselage fuel tank.

During February the IJAAF withdrew several non-fighter units from Wewak to Hollandia's three airfields, or even further afield in West New Guinea. Nonetheless, the airfields around Wewak remained important forward operating bases, and they endured as the focal point of IJAAF fighter operations for much of March.

Although units flying from Hollandia were less exposed to attacks by USAAF bombers due to the airfields' greater range from American bases, the location had several disadvantages. There was one less airfield on which to base aircraft, the three strips were located close together and they all lacked infrastructure. Flak defenses were also weaker, and there was no radar coverage to detect approaching Allied aircraft. Although spasmodic night raids by American heavy bombers demonstrated that Hollandia was not immune to attack, the IJAAF mistakenly estimated that it was beyond the range of USAAF fighters. This meant, in Japanese eyes, that the Fifth Air Force would not send its A-20G and B-25D strafers to Hollandia without fighter protection.

When the newly arrived 33rd and 77th Sentai took up station around Wewak, all IJAAF fighters in New Guinea were now placed under the command of the 14th Hikodan. The latter paired them up as "air attack units" – 68th and 78th (Ki-61s and Ki-43s), 63rd and 248th (both Ki-43s) and 33rd and 77th (both Ki-43s). However, most of these sentai were barely viable in respect to serviceable aircraft. With the supply of replacement machines from Manila having dried up, the 68th Sentai was reduced to two operational Ki-61s by mid-February 1944. At the end of the month both the 63rd and 248th Sentai withdrew to Hollandia.

After having been in-theater only three days, the 77th flew its first combat mission on March 1. Based on an observation report that 21 Liberators were heading toward Hansa Bay, 68 aircraft were scrambled to intercept them – 18 of the fighters were Ki-43s from the 77th Sentai. No enemy aircraft were found, and the false alarm cost the 68th Sentai a serviceable Ki-61 when the fighter was destroyed in a crash on take-off that left its pilot seriously injured. Then, barely ten minutes after the aircraft had returned to Wewak, one of the local 50Kw radar sets detected an approaching enemy formation about 35 miles to the east. This time 42 fighters were scrambled, including 27 "Oscars" from the 33rd and 77th Sentai. Again, no enemy were encountered. Thus, the first day of New Guinea operations for these recently arrived units proved to be both an anticlimax and a waste of scarce fuel.

The 77th finally saw action the following day, some considerable distance from Wewak. Eight P-47s from the Finschhafen-based 341st FS had been assigned as escorts for 60 B-25s and A-20Gs targeting Japanese forces on Los Negros Island, 280 miles northeast of Wewak, while US troops occupied the island's Momote airfield (known as Hyane to the Japanese). Responding to a plea for air cover, the IJAAF sortied 23 fighters from the 68th, 77th, 78th and 248th Sentai. It took the pilots 90 minutes to reach Momote airfield, their progress being keenly watched by the 341st as the enemy fighter formation approached from the New Guinea mainland. The Thunderbolt pilots used this time to gain a considerable height advantage.

Both the 68th and 78th Sentai were by now flying hand-me-down Ki-43-IIs, as only one or two Ki-61s remained airworthy. Misidentifying their opponents as "Hamps" and Zero-sens, the Thunderbolt pilots were credited with seven victories. The IJAAF claimed a bomber and two P-47s destroyed, although there were no US

losses. In reality, only three Ki-43s had been downed, resulting in the deaths of Sgt Maj Toshitaro Sakaeda of the 33rd Sentai (he was a last-minute addition to make up numbers for the 77th, as most of the 33rd's pilots had fought over Hansa Bay that morning and remained on the ground) and Sgt Maj Sei'ichi Nagae and Sgt Tasuku Kirihara of the 68th Sentai.

On March 4 P-47s from the 35th FG strafed the 77th Sentai's Dagua base, destroying a Ki-43, damaging a second fighter and killing a groundcrewman. Despite being surprised by the attack, the unit scrambled 12 "Oscars," but the Thunderbolt pilots used the superior speed of their mounts to flee the area. Later that same day a shotai of patrolling Ki-43s from the 77th Sentai were led into action against P-47s from the 40th FS. Chutaicho of the 3rd chutai, ace Capt Yoshiro Kuwabara, with wingmen Sgts Shoichi Hashimoto and Masashi Kumasaki, engaged in an inconclusive combat that saw Maj Bill McDonough and his pilots put four rounds through one of Kuwabara's wingtips, while Hashimoto escaped by diving to tree-top height. McDonough's pilots were awarded four kills (one of which gave McDonough ace status – he claimed a "Tony"), despite all three Ki-43s returning to Dagua.

That same day two "Oscars" from the 248th Sentai joined a combined IJAAF formation en route to attack airfields in the Ramu Valley, where a large formation of Thunderbolts was encountered. Once again, the action ended inconclusively, without any losses on either side.

LOSS OF NEEL KEARBY

March 5, 1944 proved to be a fateful date for both New Guinea's Thunderbolt fraternity and, more widely, the entire Fifth Air Force. Col Neel Kearby's intruder tactics would cost him his life when the 77th Sentai confronted the best USAAF pilots in-theater. During a late-morning mission to Wewak, high-scoring aces Capt Richard Bong and Lt Col Thomas Lynch of V Fighter Command HQ went in search of enemy aircraft in their P-38s. That afternoon, Thunderbolt aces Kearby and Capts Samuel Blair and William Dunham undertook a similar sweep of the area.

Capt Samuel Blair of the 341st FS was an ace by the end of 1943, being credited with six victories between October and December. He claimed only one "Oscar" destroyed, on December 17, although three other downed opponents that he identified as "Hamps" and a "Zeke" were almost certainly Ki-43s too. (Author's Collection)

For the IJAAF, the day started at Dagua with a false alarm that needlessly launched 12 Ki-43s from the 77th Sentai. A second alert at 0940 hrs scrambled 11 more, led by CO Maj Kunio Matsumoto. Once airborne, they joined forces with the 33rd Sentai. All had returned by 1110 hrs, bar Capt Yoshiro Kuwabara (executive officer of the 77th Sentai and CO of its 3rd chutai) and two wingmen. This trio had been attacked by Lynch and Bong, as recorded by the IJAAF. "Capt Kuwabara and WO [Koichi] Mitoma were surprised by two P-38s. 1Lt Makao Miyamoto counter-attacked, although he was shot down by concentrated fire and crashed into the sea north of Dagua at 1120 hrs." This report clearly flatters

Miyamoto's reaction, since Lynch cleanly eliminated his "Oscar" in the first surprise pass made by the P-38 aces.

The two USAAF pilots then reversed course for a second pass, but it is unclear whether they scored hits on the remaining two Ki-43s, which had dived to low altitude, where they enjoyed superior maneuverability over the P-38s. Lynch and Bong sensibly broke off and climbed away. They then sighted more Ki-43s just below the cloud base at 6,000ft. Lynch exchanged fire with one of the "Oscars" during a frontal pass, reporting that a piece of the enemy machine hit his own airframe when it broke off. The two aces then left the area, with Lynch awarded one kill and one damaged and Bong credited with an "Oscar" probably destroyed and a second Ki-43 damaged.

Kuwabara returned to Dagua at 1145 hrs, where he reported Miyamoto's demise. Although the Ki-43s flown by Kuwabara and Mitoma sustained hits, they had both just survived a surprise attack by the two leading P-38 aces in New Guinea.

The third scramble for the 77th on March 5 came four hours later, when Kearby and his wingmen intruded into Wewak's airspace at 22,000ft. They duly watched three slow-moving bombers below them, which they reported were IJNAF G3M "Nells." They were in fact Ki-48s from the 208th Sentai out over the sea on the downwind leg prior to landing at Dagua. Kearby's flight took out the three unescorted "sitting ducks" in short order, one of the aircraft diving spectacularly into the sea. Now fully alerted, five Ki-43s from the 77th Sentai scrambled from Dagua in two separate flights – a trio led by Maj Kunio Matsumoto and a pair led by WO Koichi Mitoma.

Moments after the last Ki-48 crashed, Kearby violated his own combat dictum and turned full circle at low altitude, possibly in an attempt to ascertain the fate of the bombers they had just attacked. As he completed his maneuver, a Ki-43 loomed into view on a beam attack. Dunham saw the threat, for he banked toward the fighter and opened fire. He later reported that it crashed in flames – no IJAAF fighters were lost, however. Kearby suddenly changed course to head toward the arc of Dunham's protective fire, although it appears he was hit by bullets from the "Oscar" before his wingman's return fire could deter his attacker. Blair then saw another radial-engined fighter crash, likely Kearby's Thunderbolt. As Dunham and Blair left the area without their leader, they sighted "eight Ki-61s" (probably more Ki-43s) preparing to take off from Dagua. They had had a narrow escape.

Dunham and Blair later stated they had been tackled by four "Oscars," not three. WO Koichi Mitoma and Sgt Hiroshi Aoyagi (one of Matsumoto's wingmen) claimed a Thunderbolt each. Aoyagi was ranked a novice and had just arrived in-theater with barely 200 hours of flying time. IJAAF records show that the 77th Sentai had downed Kearby in exchange for one heavily damaged Ki-43. Kearby's violation of his own golden rule had considerably slowed his mount, exposing him to enemy fire in a low-energy state. Back at base, the distraught Dunham was physically restrained from attempting a dangerous search in fading light. Until his last day, Kearby had remained desirous to break the record for the number of enemy aircraft shot down, and this fervor likely compromised his discipline. The Ki-48 he had downed moments prior to his own demise had taken his tally to 22 victories.

In 1946, Australian War Graves personnel were alerted to the burned-out wreck of Kearby's Thunderbolt and his body lying nearby, which was recovered and handed over to US officials. The wreckage, which lay just 1,800ft from Dagua airfield, still included

OVERLEAF

On March 5, 1944 Col Neel Kearby and his two wingmen intruded into the airspace over Wewak at 22,000ft in search of IJAAF aircraft. The flight quickly downed three Ki-48s from the 208th Sentai and then engaged five Ki-43-IIs from the 77th Sentai that had been scrambled from Dagua in two separate flights – three led by unit commander Maj Kunio Matsumoto and a pair led by WO Koichi Mitoma. Kearby turned full circle at low altitude to check on the status of one of the bombers he had just attacked, and as he completed this slow-speed maneuver an "Oscar" carried out a beam attack on the vulnerable P-47. WO Mitoma and Sgt Hiroshi Aoyagi (one of Matsumoto's wingmen) both claimed a Thunderbolt destroyed. Only one fighter was lost, however – Kearby's P-47D-4 42-22668, which was hit hard in the cockpit.

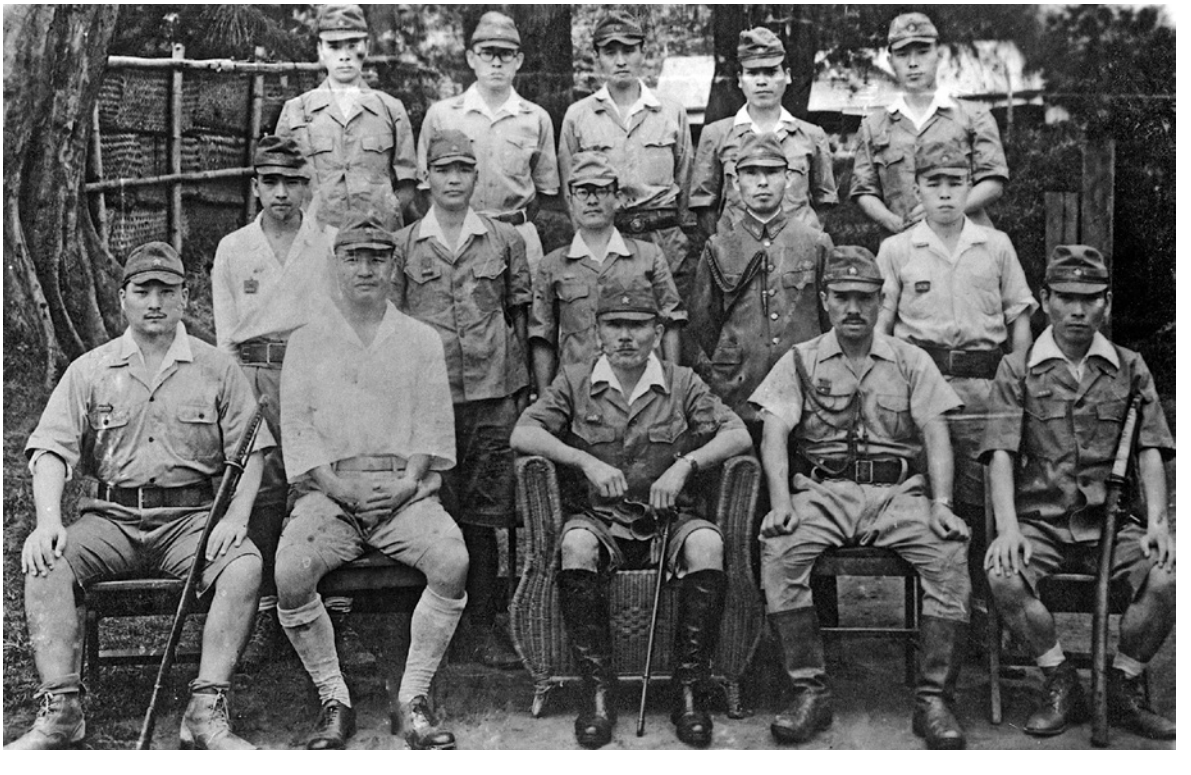
the intact white fin with the discernible yellow stencil "222668." This item was recovered in 2001 and is now on display in the National Museum of the USAF in Dayton, Ohio.

BEGINNING OF THE END

Meanwhile, the 33rd Sentai was suffering similar privations to the 77th. On March 8, Sgt Maj Harumi Takemori of the 2nd chutai recorded that three of their "Oscars" had been destroyed during a night bombing attack of But airfield. At 1100 hrs that day his chutai took off to deter another incoming B-24 raid with ta-dan aerial bombs. The Liberators were escorted by Thunderbolts. Takemori wrote, "I forgot to activate the switches on my bombs so they failed to explode. My biggest mistake! However, all the enemy's bombs fell harmlessly in the jungle." His entry the next day complains, "we only have four to five maintenance crewmen to service the entire chutai. Why can't the sentai increase the number of ground personnel?"

On March 10 the 77th's CO, Maj Kunio Matsumoto, was summonsed to Hollandia to discuss the deteriorating situation at Wewak. The conference was held at the 14th Hikodan's Headquarters and was presided over by a gloomy Lt Gen Kumaichi Teramoto, Commander-in-Chief of the 4th Kokugun. No one disagreed as to the seriousness of the situation, and there appeared to be no viable solution save the withdrawal of Wewak's fighters to safeguard them from American bombs and bullets.

The previous day, the 63rd and 248th Sentai had been banded together as a single unit, titled the Second Attack Force. However, despite the elegant designation, it could barely muster a single chutai, commanded by Maj Magoji Hara of the



This group photograph was taken at Hollandia during the early March 1944 conference convened by Lt Gen Kumaichi Teramoto, Commander-in-Chief of the 4th Kokugun. Held at the 14th Hikodan's Headquarters, the conference brought together all of Wewak's fighter commanders and senior staff officers. Teramoto is seen here seated in the wicker chair, while Maj Tsunao Nagano, CO of the 13th Sentai, stands in the second row, second from the right. Maj Kunio Matsumoto, CO of the 77th Sentai, is also present here, but as with the remaining individuals in this group, he cannot be identified. (Author's Collection)

63rd Sentai. For all his sterling efforts, the CO of the 248th Sentai, Maj Takebumi Kuroda, was now relegated to the sidelines, his unit struggling to field more than a handful of "Oscars."

The Allies continued to target Wewak, and on March 11 the Fifth Air Force sortied a combined force of 85 A-20Gs, B-24s and B-25s. The raid was opposed by 13 Ki-43s from the 77th Sentai and 18 from the 33rd Sentai. A combined defensive formation climbed to height led by Capt Yoshiro Kuwabara, who was acting as CO while Matsumoto was at Teramoto's strategic conference. Sgt Maj Harumi Takemori of the 33rd Sentai later noted in his diary "all Hayabusa departed to meet the incoming formation. My oxygen regulator failed to operate so I was unable to accompany the others. Most returned to Hollandia, but Takemori, Sugiura and Fukusu landed at But. Another large enemy formation was reported heading north. Accompanying these three, I took off, and alongside the 77th's Hayabusa, we fought P-47s and shot one down."

Executive officer of the 77th Sentai and chutaicho of its 3rd chutai, Capt Yoshiro Kuwabara arrived in New Guinea in 1944 with 11 victories to his name following combat in Thailand and Burma in 1941–42. He was credited with his 12th, and last, success on March 11, 1944 when he claimed a P-47 destroyed. Three days later, Kuwabara was killed by escorting fighters (either Thunderbolts or Warhawks) as he tried to intercept B-24s targeting Wewak. (Dr. Yasuho Izawa Collection)

Thunderbolts from the 35th FG's 40th and 41st FS were led into action by Capt Robert Yaeger (who would claim two "Tonys" and an "Oscar" during this mission to add to two previous victories flying the P-39, thus becoming an ace). Sixteen P-47s from the 340th FS also participated in the operation, these aircraft being led by unit CO and 1942 New Guinea Airacobra veteran Maj Hervey Carpenter.

The two formations of fighters engaged in a largescale skirmish, with the "Oscar" pilots flying robust maneuvers aimed at enticing their USAAF counterparts down to lower altitudes "where they could more effectively close their attack, utilizing their superior performance at said altitudes." The Thunderbolt pilots responded with "dive-and-zoom" tactics wherever possible, and they rated their opponents as "experienced and very aggressive." The 340th's pilots went a step further, stating that the enemy aviators were the best they had encountered in New Guinea to date.

Maj Carpenter reported that "the Nip pilots were aggressive and their determined teamwork was excellent. After committing to the attack it was impossible not to mix it up." The Fifth Air Force Combat Evaluation Report summarized "our planes patrolled 22,000 to 26,000ft with nil sightings. At 1045 hrs ten enemy fighters took off from But and Dagua. When the P-47s dived, they attacked fighters from above at 27,000ft. Bottom fighters were decoys. The enemy spread their formation excessively. Our planes maintained high speed during attacks and covered the tails of each other closely."

Although a number of Thunderbolts sustained hits, only two were lost, both assigned to the 35th FG. 2Lt John Gerrity was not downed by the enemy, however. Having reduced the speed of his Thunderbolt in order to stay with a wildly maneuvering "Oscar" at low altitude over the ocean three miles north of But airfield, the fighter stalled and spun when he banked sharply to avoid anti-aircraft fire. The second mission fatality, 2Lt George Gaffney, was not a combat loss either. During the

The western end of the sprawling Gusap complex lay less than 200 miles southeast of the IJAAF airfields surrounding Wewak. Photographed in March 1944, Gusap was home to the 35th and 49th FGs from late 1943 through to April/May 1944. The A-20G-equipped 312th BG was also resident here during this period. (Author's Collection)

widespread combat he became separated from his formation and made his way back to Saidor alone. There, groundcrew checked his mount for damage while it was being refueled. Although the Thunderbolt appeared to be unscratched, Gaffney went missing in the Finesterre Range in marginal weather during the return leg to Gusap.

With the action now over, the 33rd Sentai returned to Hollandia to refuel, before flying back to But at 1600 hrs. Despite heavy strafing, only two 77th Sentai groundcrew had been wounded during the raids at But. The 33rd reported to Hollandia that two of its Ki-43s had been moderately damaged, although on the plus side the pilots had claimed six Thunderbolt victories and one probable. The 77th had had four Ki-43s badly damaged, while the state of the damage to the fighters from the 63rd Sentai is unclear – it too had participated in the action.

Despite 23 victories being claimed by the Thunderbolt pilots, not a single Japanese fighter was lost in combat. Four P-47 pilots were awarded two or more victories – Capt Robert Yaeger claimed three, while Maj Hervey Carpenter and 1Lts Richard Fleischer and Andrew Lytle were credited with two apiece. Likewise, Japanese claims of six Thunderbolts destroyed (including one by Capt Yoshiro Kuwabara) appear to be little more than wishful thinking.

The relentless pace of attacks against Wewak continued the next day (March 12) when B-25s and A-20Gs strafed the airfields while escorted Liberators bombed from medium altitude. The weather at Nadzab was completely overcast, dominated by two extensive stratocumulus cloud layers that reached up to 15,000ft. These conditions would cost the USAAF dearly. The cautious language of the 4th Kokugun's post-action report underlines the "exceptional characteristics" of the combat, and that "fighting was complicated, and only a few Hayabusa attacked the enemy… we had run out of aerial bombs, and our results were deficient." Such a blunt admission clearly reveals that the IJAAF was becoming increasingly aware that it could no longer resist the growth of US air power in New Guinea.

When the warning of the incoming attack sounded, Capt Yoshihide Matsuo, chutaicho of the 77th's 2nd chutai, led seven Ki-43s aloft to attack the inbound Liberators. The latter were escorted by Warhawks from the 7th and 8th FSs and Thunderbolts from the 41st FS. The 33rd Sentai's 2nd chutai could only muster five "Oscars," which took off at around the same time as the fighters from the 77th. Sgt Maj Harumi Takemori and his wingmen separated from the main formation and climbed to 8,000ft, but for unspecified reasons they did not engage. This left the 1st and 3rd chutai to fight the Thunderbolts alone.

The USAAF fighters emerged victorious from the ensuing action, with Sgt Maj Tatsuo Tomatsu of the 33rd Sentai's 1st chutai being killed despite taking to his parachute. Another unidentified 33rd pilot parachuted safely, but the 77th lost WO Koichi Mitoma and Sgt Maj Kiyoshi Kobayakawa, with two more unidentified pilots being wounded. Sgt Fukushima Wakichi force-landed at Boram, his badly shot-up Ki-43 bursting into flames shortly after he had abandoned it. Sgt Maj Harumi Takemori of the 33rd Sentai noted in his diary that evening "Wewak East was a gruesome spectacle – five 77th Sentai men were killed on the ground." This combat had cost six "Oscars" and three pilots.

The USAAF bombers had also suffered losses, with two A-20Gs crashing spectacularly due to ground fire and a third being listed as missing after incurring flak damage. Three more got lost in the solid overcast attempting to fly home, the Havocs being ditched hundreds of miles from New Guinea's southern coast – their crews eventually returned to duty. The Warhawk pilots claimed 14 fighters destroyed and their Thunderbolt counterparts three. In reality, five Ki-43s had been lost in combat. Late that afternoon a communique from Wewak informed 4th Kokugun HQ at Hollandia that Ki-43 pilots had shot down seven Liberators. Aside from the A-20Gs downed by flak or bad weather, no other USAAF aircraft were lost that day.

Wewak was targeted yet again on March 14, with a maximum effort mission being generated despite another over-reaching overcast at 20,000ft dominating the skies above the northern coast of New Guinea. The 35th FG dispatched three full squadrons of Thunderbolts, which provided fighter escort for B-24s alongside Warhawks from the 49th FG.

On this occasion the IJN observation post on Umboi Island warned Wewak of the approaching USAAF bombers. The 77th's Ki-43s, again led by Capt Yoshiro Kuwabara, climbed to attack the inbound Liberators. The 33rd Sentai also scrambled all of its serviceable "Oscars," although several pilots from the 2nd chutai returned to But when the oxygen regulators failed in their fighters. Others could not release their detachable drop tanks or experienced engine problems, thus preventing them from intercepting the high-flying bombers.

During the ensuing fight Kuwabara finally fell to American guns, although it is unclear whether he was downed by Thunderbolts or Warhawks (whose pilots claimed five and two victories, respectively). 33rd Sentai pilots Sgt Mitsuo Matsumo and Cpl Seiji Ohya were also lost in this one-sided battle.

No American fighters were downed in combat, although 1Lt Gene Duncan – who led the 39th FS's Green Flight – was only 15 minutes from Wewak at 15,000ft when he radioed that his engine was running rough. Heading for the Schouten Islands with black smoke trailing from his fighter, he successfully ditched and was seen waving from his raft. A rescue PBY dispatched to save Duncan failed to arrive by nightfall,

Among the many derelict Ki-43-IIs captured at Hollandia in April 1944 was this aircraft assigned to Capt Yoshihide Matsuo, chutaicho of the 77th Sentai's 2nd chutai. Behind it are two Ki-43-IIs from the 59th Sentai, the closest one being 5388 of the 2nd chutai. (Author's Collection)

and come the next morning Duncan had disappeared. He is still listed as missing in action. 2Lts Thomas Schatzman and Richard Murr from the 41st FS became disorientated in combat and headed for a distant Port Moresby. When they ran low on fuel the pair force-landed at the emergency grass field at Terapo, 120 miles northwest of the town.

The endless raids on Wewak were, predictably, taking a brutal toll on the exhausted Japanese pilots. By mid-March, Fifth Air Force intelligence had determined that the airfields had been neutralized, so the March 15 attack focused on the township itself, including the port, warehouses, anti-aircraft batteries, supplies, ammunition dumps and vehicles. A combined force of almost 200 fighters and bombers was assembled for the mission.

An exhausted Sgt Maj Harumi Takemori unhappily recorded that at But airfield his 33rd Sentai could only scramble 12 Ki-43s to oppose the raid, with the 77th sending just a token three fighters aloft alongside a small detachment from the 63rd Sentai. The combined formations departed Wewak at 0740 hrs to patrol at 24,000ft, and just as they attained this height the pilots spotted the approaching USAAF formation. Takemori and a Sgt Inagaki jointly attacked a Thunderbolt, and the former subsequently noted in his diary that their opponent took "advantage of its great speed, dived quickly and escaped." American fighter pilots claimed nine aerial victories in the wake of this mission, although only 63rd Sentai pilots 1Lts Yasuji Ogi and Shigekatsu Shimoura were in fact shot down.

On March 19, 342nd FS Thunderbolts escorting yet another formation of B-24s arrived overhead Wewak at 20,000ft and sighted 16 Japanese fighters and a single bomber at about 7,000ft. Despite his radio being inoperable, future ace 1Lt Robert Sutcliffe led his quartet of P-47s down to attack a shotai of "Oscars" cruising at around 3,000ft. Taking the lead Ki-43 pilot by surprise, Sutcliffe opened fire from a distance of just 20 yards and set his target on fire. Overtaking the Japanese fighter at 400mph, Sutcliffe and his wingman climbed in order to make a second pass, covered by the second element of two Thunderbolts.

Sutcliffe duly wrote in his after action report, "the three ships then executed a well-planned maneuver. The leader pulled into a tight loop and the wingmen began chandelles to the right and left, respectively. I saw what was coming and did not attempt to follow. Had I followed any one of the three, both of the other two would have been in an excellent position to catch me in a crossfire. This maneuver is a very tempting trap." Sutcliffe was awarded a single kill, his victim remaining unidentified. Whoever it was had become the last 248th Sentai pilot lost in New Guinea.

Two days later, staff officer Lt Col Kyohei Matsuzawa arrived at Wewak from Japan to discuss the deteriorating condition at the town's airfields following the Allied

bombing campaign. He departed for Japan on the morning of March 22, reporting to his superiors upon returning home that the situation in northern New Guinea was beyond salvation. No mitigating solutions were offered in order to reduce losses, save to withdraw more IJAAF units from Wewak. Such was the extent of the attrition that surviving Ki-43 units had to be restructured. By this time some sentai could barely field single chutai-strength formations.

By March 26 the 63rd Sentai was stationed at Hollandia, where it had just eight Ki-43s on charge, while the 248th could field only half that number. On that date the entire strength of the IJAAF's 4th Kokugun in New Guinea was a paltry 127 operational aircraft, of which only 54 were fighters. The next morning the unit's chief of ordnance briefed senior logistics officers at Hollandia, telling them of the severe losses of aircraft and supplies incurred at Wewak. The IJAAF ledger recorded that in the seven-month period from August 1943 (when the first strafing attacks had begun) through to February 1944, the 4th Kokugun had had 710 Wewak-based aircraft destroyed, of which only one-third had been lost in aerial combat. These disquieting figures highlight the effectiveness of the Fifth Air Force's strafing and bombing offensive.

At the end of March 1944 the IJAAF moved most of its remaining serviceable aircraft to Hollandia, leaving a small contingent of Ki-43s at Wewak. 4th Kokugun HQ exhorted them to disperse the handful of airframes that remained at Dagua and But, although conditions were such that it was unworkable to both conceal the aircraft and have them available at short notice to engage USAAF raids. Regardless, during the last two weeks of the month Allied forces failed to encounter a single Japanese fighter over Wewak.

Just when it seemed the skies of northern New Guinea had been cleared of fighters, new replacement Thunderbolts began arriving in-theater without camouflage. P-47D-21s were delivered in natural aluminum finish, as opposed to all previous models which had sported USAAF olive drab over gray.

The final largescale action fought between IJAAF fighters and their USAAF opponents over Wewak took place on April 11 when, in an unanticipated retaliation to an attack on the beleaguered town, 16 Ki-43s and eight Ki-61s engaged 100+ fighters and bombers. These 24 fighters, which had all sortied from Hollandia, represented the entire fighter strength of the 6th Hikodan. They both surprised and drove resolutely into the enemy formation, with the Ki-61s from the 68th Sentai and Ki-43s from the 33rd and 77th Sentai being led into action by ace Capt Kiyoshi Namai (leader of the 33rd's 1st chutai).

Despite being badly outnumbered, only two Ki-61s were subsequently lost – both downed by P-38s. The principal Thunderbolt unit involved in the action was the 311th FS/58th FG, which committed 16 P-47s to the operation. The Saidor-based unit had been largely confined to ground attack or bomber escort missions to date, and its pilots lacked the dogfighting skills of their contemporaries in the 35th and 348th FGs. The IJAAF would take full advantage of this.

The first Thunderbolt shot down was the aircraft flown by 2Lt Marvin Rothman, who was possibly dispatched by a Ki-61. Rothman's fighter dove at high speed into the hills behind the village of Suanum, 14 miles southeast of Boram airfield. Squadronmates 2Lts William Graham and Thomas Bullington were last seen heading southeast toward Brandi Plantation, and they both crashed near Urimo, 17 miles southwest of Wewak. Graham's Thunderbolt crash-landed relatively intact, and his body was recovered by villagers. It appears from the scant Japanese records of this

mission that the pair were possibly jumped by Ki-43s from the 33rd Sentai, which, together with the other units involved, claimed a total of 12 Thunderbolts destroyed and five probables. Capt Namai, who was credited with the destruction of a P-47, later reported that the battle had been "one-sided" in favor of the IJAAF pilots.

When Rothman, Graham and Bullington failed to reappear at Saidor, four more pilots from the 58th FG took off and headed to Wewak in search of them. En route, 2Lt Clement Theed, searching down low at an altitude of 400ft, banked sharply in order to get a better view of a hut he had spotted below him. His large Thunderbolt suddenly wobbled and then spun into the jungle ten miles southwest of Madang, Theed having become the latest victim of the Republic fighter's poor stalling characteristics when being flown at a low-energy state. Indirectly, Theed had become the last victim of New Guinea's Ki-43 units.

After this raid, all remaining airworthy IJAAF fighters at Wewak were evacuated to Hollandia, which then became the target of a relentless series of attacks leading up to the Allied amphibious invasion of April 22, codenamed Operation *Reckless*. Only six Ki-43s managed to get airborne to oppose US carrier-based fighters that supported the landings, the "Oscars" being led into action by Lt Col Kenzo Onda of the 14th Hikodan. When Hollandia was invaded, the IJAAF ordered the 400 aircrew of the 6th Kokugun, a quarter of whom were fighter pilots, to retreat 60 miles northwest by foot to Sarmi. Despite having had no advance notice to provision themselves for such a long trek, the men set out into the jungle at midnight on the 23rd. Most of them would never be seen again. The 63rd, 68th, 77th, 78th and 248th Sentai would not be officially disbanded by the IJAAF for several months.

Meanwhile, back at Wewak, the groundcrew were also abandoned. Like Hollandia, both Madang and Alexishafen were also captured in April 1944. However, the rest of Wewak was bypassed by the Allies and not occupied until 1945.

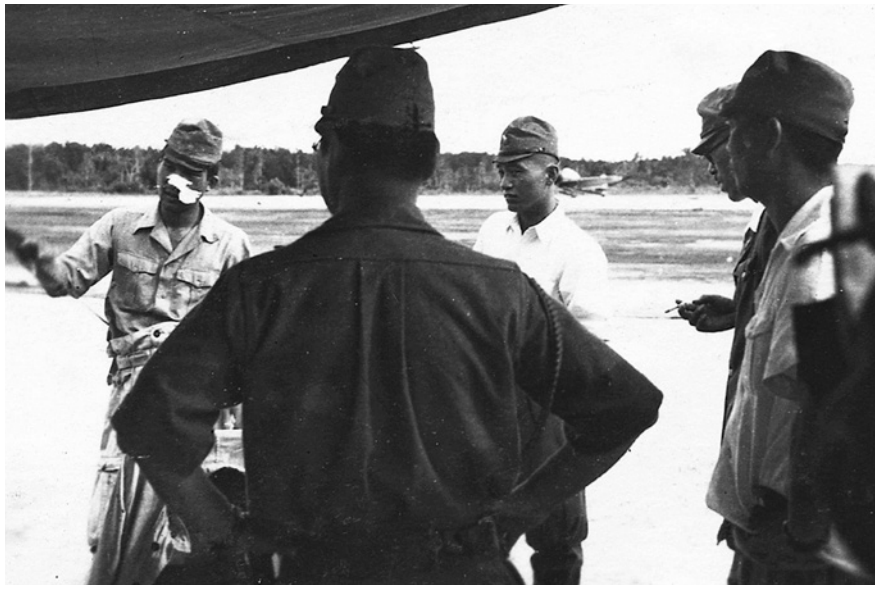
Most "Oscars" destroyed in northern New Guinea fell victim to strafing and bombing raids, rather than Allied fighters. Here, Australian troops inspect the battered remains of a Ki-43-II from the 59th Sentai that was targeted during an attack on Madang, which was home to three IJAAF fighter sentai prior to its capture in late April 1944. Unusually, the "Oscar" has a yellow combat band just forward of its tail section. This marking, commonly referred to as a "senchi hiyoshiki" (battlefield symbol), was usually applied in white. The broader white band ahead of the senchi hiyoshiki indicates that the fighter was assigned to a shotaicho. (Author's Collection)

STATISTICS AND ANALYSIS

Although P-47 pilots were credited with more Ki-43 victories than their counterparts in "Oscars" claimed Thunderbolts destroyed, the actual results of aerial combat in-theater are clouded by the level of over-claiming that was rampant within the USAAF and the IJAAF. With much invested in the "ace" status of American pilots, and the prestige associated with claiming aerial victories on both sides, the number of substantiated kills will dishearten enthusiasts.

Thunderbolts usually flew in four-aircraft flights, given color-coded names such as green or blue flight. The US victory credit system encouraged competition between pilots, and five or more kills entitled the pilot to the coveted title of "ace." The accomplishments of such elite aviators were widely publicized, and often earned them decorations and promotion. In contrast, Japanese culture shunned individuality, placing higher value on sacrifice and teamwork. Of course pride still existed at an individual level for combat achievement, which earned the pilot respect from comrades. That said, some IJAAF pilots had their exploits publicized in Japan, and many post-war memoirs feature personal achievement.

There are numerous occasions where pilots were positive of victory, only for it to later emerge that their quarry had in fact suffered minimal damage or none at all. In extreme cases, the "victim" did not even notice the attack! In this regard, WO Katzuo Shimizu's two aerial bomb attacks of February 14 and 15, 1944 come to mind. There were often justifiable reasons for the overestimations of aerial success, including the fleeting nature of combat and multiple enemy aircraft encountered in crowded skies. In such a fast-moving and threatening environment, one can appreciate how several



With his face partially bandaged, 1Lt Masaaki Yoshida briefs his superiors about his recent bailout during combat in September 1943. He was returned to the 59th Sentai's But airfield by friendly Sepik tribesmen. Yoshida is seen here outside the sentai's operations tent at But with the chief of staff of the 6th Hikodan, Maj Gen Itsuo Mabuchi (back to camera) and the CO of the 59th, Maj Takeo Fukuda (to Mabuchi's immediate right). The pilot facing the camera is 1Lt Kawata. (Courtesy of George Eleftheriou)

pilots might claim the same victim. Aerial combat in New Guinea always occurred in warm, humid conditions that produced vapor trails when aircraft were maneuvered at positive or negative G. Such trails could easily be confused with smoke emanating from a battle-damaged fighter.

Another component of over-claiming is the psychology of battle, where, under severe stress, the human brain will perceive what it wants. This is little understood, and the subject of ongoing research by armed forces across the globe.

With the lightly built Ki-43 lacking self-sealing tanks (some later Model IIs featured halfhearted modifications to try to fix this), the "Oscar," if hit in its most vulnerable areas, was easily and abruptly removed from combat in flames. The Thunderbolt was capable of accepting far more punishment, its robust airframe with self-sealing tanks and armor plating probably saving more lives than has been officially acknowledged.

The actual victory ledgers in New Guinea reflect the fact that it was much harder to shoot down an enemy aircraft than was portrayed in the official victory listings of both the USAAF and the IJAAF. Nonetheless, fighter units on either side principally judged their accomplishments in combat by the number of claims made. For the Thunderbolt pilots, this was a matter of personal pride, whereas the Japanese mentality reflected more upon honor, respect for the IJAAF, and Japan. This simple yardstick of success ignores both qualitative and strategic factors. For the Japanese, raw numbers of losses alone fail to convey the qualitative impact the death of experienced IJAAF pilots had on units in-theater.

Calculating the exact numbers of victories claimed by Thunderbolt and "Oscar" pilots in New Guinea is an inexact science for two main reasons. Firstly, it is rare to find a confrontation in which only P-47s and Ki-43s were involved. As previously noted, USAAF pilots routinely confused enemy aircraft types in the heat of battle. All that can be said with certainty is that "Zeros," "Zekes" or "Hamps" claimed over Wewak were probably Ki-43s, Ki-61s or even Ki-51s, all of which were flown in

substantial numbers by IJAAF units in northern New Guinea. If anything, Japanese pilots were even worse than their American counterparts at aircraft identification. "Curtiss" fighters (P-40Ns) were often identified as adversaries when none were in attendance. Likewise, "P-47s" were claimed when USAAF operational records clearly show only Warhawks were in the area. In some cases, "F4Fs" appear as adversaries over the Admiralties when the closest examples of the carrier-based Grumman fighter were hundreds of miles to the east.

The second challenge to estimating actual victories is that claims from many IJAAF pilots are missing, particularly from the last few months of the campaign. That fact not withstanding, there are several combats where the only adversaries were Thunderbolts and "Oscars," and from such engagements trends can be drawn. All Ki-43 pilots wore parachutes, saving the lives of many aviators (often more than once) – the return of 1Lt Masaaki Yoshida, chutaicho of the 59th Sentai's 1st chutai, to But airfield by friendly Sepik tribesmen via canoe is an obvious example. Conversely, few Thunderbolt pilots who successfully took to their parachute returned to base. This was primarily because of the nature of their long-range operations, which meant that most pilots who bailed out were either captured or died of exposure or injury. Not one Thunderbolt PoW survived Japanese capture, although several Ki-43 pilots did. The well-documented interrogations of the latter aviators provide key insights into IJAAF fighter operations in this theater. The capture of 77th Sentai adjutant 1Lt Masao Ishihashi near Sarmi, in western New Guinea, on July 29, 1944 is a stellar example. A cooperative captive, he left historians with an extensive and priceless account of the unit's operations in New Guinea that simply does not exist in official Japanese records.

While it was IJAAF policy to share victories across the board, a handful of New Guinea Ki-43 pilots wrote memoirs after the war stating that some took pride in their personal victories. Although he never served in New Guinea, one particular alleged achievement of "Oscar" pilot Sgt Maj Satoshi Anabuki underlines the danger of taking such memoirs at face value. He claims to have dispatched five aircraft over the Burmese capital of Rangoon when flying alone on October 8, 1943. This action remains the most celebrated involving an IJAAF fighter pilot in World War 2, dominating the Japanese press at the time and being repeated in Anabuki's biography (*Soku no Kawa*).

The official proclamation for this event credits him with downing three Liberators and two Lightnings, yet relevant USAAF and RAF records reveal

Capt John Moore, CO of the 341st FS/348th FG, looks down at the photographer from the wing root of his P-47D-3 42-22637 *DARING DOTTIE III*. He claimed two "Zekes" in this aircraft while defending US Navy PT boats that had come under aerial attack off Cape Gloucester on December 27, 1943. These IJNAF fighters were probably IJAAF Ki-43s. Seven-victory ace Moore was later posted missing in action during a mission to Ceram Island, in the Dutch East Indies, on October 8, 1944. (Author's Collection)

that no Allied raid actually took place on Rangoon that day, nor were any Allied aircraft lost. Anabuki, who survived the war as the IJAAF's ranking ace of the conflict, later became a respected officer in Japan's Self-Defense Force. When he made the seemingly spurious claim for five victories on October 8, 1943, Anabuki could not have foreseen that the fame emanating from his actions would outpace any wish he might later have had to contain it. Neither could he renounce the claim without mitigating the emperor's mandate.

History deserves the truth, yet in the case of this volume it is elusive. Hopefully, the comparisons cited here, done with objective intention, will be qualified in greater detail in the future by the discovery of more primary source evidence. The following estimations are compiled from limited evidence, and although useful to establish trends perhaps, they should not be cited as hard fact. The 4th Kokugun estimated that it lost approximately 230 aircraft in aerial combat, with many of these being bombers. A generous estimation for the total number of IJAAF fighters destroyed in combat in New Guinea is 140, with Lightning pilots claiming the vast majority of them. Warhawk and Thunderbolt pilots and bomber gunners come in a poor second.

Thunderbolt groups claimed approximately 121 victories against Ki-43s from August 1943 through to April 1944. The actual confirmed number of victories that can be matched to IJAAF losses is 19, giving an estimated ratio of about 6.4-to-1 (i.e. one kill for every 6.4 claims). This figure is virtually identical to the established ratio of 6.3-to-1 claimed by USAAF fighter pilots against IJNAF A6M Zero-sens in the New Guinea theater in 1942 – a ratio substantiated with hard data.

Conversely, no more than ten Thunderbolts were lost to the guns of the Ki-43 in New Guinea. Paradoxically, operational losses by the 58th FG alone were many times more than this. Thus, it might be said that a Thunderbolt pilot in New Guinea risked fatality far more from training accidents than from combat with an "Oscar." Incomplete IJAAF records indicate that Ki-43 pilots claimed around 60 Thunderbolts destroyed, giving a ratio of around 6-to-1 – a similar over-claiming ratio to that of their USAAF counterparts.

Perhaps a more valid comparison between the effectiveness of the P-47 and the Ki-43 in New Guinea in 1943–44 can be made by studying the number of actual losses of Thunderbolts and "Oscars" based on confirmed evidence. As previously noted, nine (perhaps ten) P-47s fell to the Ki-43, while 19 "Oscars" were shot down by Thunderbolts. This presents a kill ratio of approximately 2-to-1 in favor of the P-47. Such a figure would have astounded Fifth Air Force commanders who assessed that it was exponentially higher, and it is clear that the maneuverability of the "Oscar" and the tactics employed by its pilots served the IJAAF well.

However, these figures are secondary to the greater reality that most Ki-43s were destroyed on the ground by Fifth Air Force strafers and bombers – a threat that the Japanese could not negate. This was devastation on an industrial scale, and the fundamental misfortune and destiny of the IJAAF in New Guinea.

AFTERMATH

After the Allies' Operation *Reckless* invasion fleet appeared off Hollandia on the morning of April 22, 1944, IJAAF HQ in Tokyo ordered that all airworthy aircraft were to be evacuated west, with groundcrew to retreat by foot. The humiliation of Hollandia's subsequent loss had wider reverberations throughout the Japanese military command structure.

During the march westward, there was no shortage of communiqués from Tokyo helpfully underlining the difficulty of crossing rivers, and urging due attention to the proper distribution of scant supplies. Five months after setting out, a small group of IJAAF survivors commandeered two patrol boats and headed for the IJN outpost at Windensi, in western New Guinea. When the vessels were eventually run aground, they were fired at by a US Navy patrol boat. The few who made it ashore struggled onwards, securing a fishing boat and finally reaching the western end of western New Guinea. In charge of the group was the CO of the 248th Sentai, Maj Takefumi Kuroda, who would become the most senior officer to survive the New Guinea theater.

The history of the 248th Sentai encapsulates the downfall of New Guinea's Ki-43 units. Subsequent to

This Ki-43-II was one of several "Oscars" abandoned by the 59th Sentai at Cyclops airfield, in northern New Guinea, in late April 1944. Found by troops from the US Army's 41st Infantry Division, the aircraft was moved to nearby Hollandia airfield, where it was examined by Technical Air Intelligence Unit personnel. Groundcrew from the 8th FS/49th FG duly made the "Oscar" airworthy, and it subsequently took part in a number of "dogfights" with P-38s, P-40Ns and P-47Ds. (Author's Collection)

The final resting place for many of the Thunderbolts assigned to the New Guinea theater – the scrap yard at Nadzab airfield, in the Markham Valley, where this photograph was taken in late 1944. Aircraft were still being scrapped here into the 1950s. (Author's Collection)

heavy losses in its first month of combat in November 1943, the 248th had had ten pilots killed in action over the following three months. January 1944 was its worst month, when the unit lost its CO, Maj Shinichi Muraoka, on the 2nd and two chutaicho. In February, 17 replacement pilots arrived at Wewak. By the end of March, 30 of the 248th's Ki-43s had been destroyed by strafing attacks. During five months of combat it had received 35 replacement "Oscars," most of which were wiped out on the ground. Within the 248th, WO Hajime Nishihara was considered the top-scoring pilot with ten victories. His closest rival was the fortunate WO Shotaro Ogawa, who duly became one of the few pilots from the sentai to survive service in New Guinea.

Invading US troops found Hollandia's airfields littered with the hulks of hundreds of wrecked aircraft. Several Ki-43-IIs were restored to flying condition by maintenance personnel, with one being assigned to the P-38-equipped 8th FS/49th FG. It was duly flown by a number of V Fighter Command pilots in mock combat against Lightnings, Thunderbolts and Warhawks. Unsurprisingly, in the wake of these flights, it was concluded that American fighters were superior to the "Oscar." These "dogfights" merely confirmed what Allied pilots had long known about Nakajima's creation.

After Hollandia fell, the Ki-43 units fought a losing retreat through the Philippines back to Japan. Many "Oscars" (including the final Ki-43-III variant) were issued to tokko units formed to undertake kamikaze missions from October 1944 through to war's end. Indeed, no fewer than seven of the 12 tokko units initially created by the IJAAF for operations in the Philippines were assigned up to 12 "Oscars" each that were expended in attacks on US Navy warships. The Ki-43 remained in the vanguard of the kamikaze offensive until VJ Day, with a final example being claimed shot down by US Navy fighters defending naval vessels off Japan at 0545 hrs on August 15, 1945.

Like the "Oscar," the Thunderbolt continued to see considerable action following the conclusion of the campaign in northern New Guinea. The groups that engaged Ki-43s over Wewak and Hollandia subsequently fought the IJAAF and IJNAF over the Dutch East Indies, the Philippines and Okinawa. The 49th FG's 9th FS had swapped its P-47s for P-38s by the fall of 1944, while the 35th and 348th FGs commenced their transition to the P-51 Mustang in the Philippines in early 1945. Only the 58th FG retained its Thunderbolts through to the end of the conflict, by which time the group was conducting operations from Okinawa with "bubbletop" P-47D-30s.

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Thunderbolt cover art
On March 12, 1944, Capt Yoshihide Matsuo, chutaicho of the 77th Sentai's 2nd chutai, scrambled seven "Oscars" to attack a formation of Liberators, escorted by Warhawks and Thunderbolts – the latter from the 348th FG's 341st FS. Two chutai of Ki-43s from the 33rd Sentai were also sent aloft, and they too wound up fighting Thunderbolts, at great cost. Two pilots from the unit were forced to take to their parachutes, and one was killed, while the 77th also lost two pilots and had two more badly wounded. Yet another pilot from the 77th force-landed at Boram, where his wrecked fighter was consumed by fire. (Cover artwork by Gareth Hector)

"Oscar" cover art
Thirty-two Thunderbolts from the 348th FG flew the type's first mission in New Guinea on August 16, 1943, during which the group encountered 19 "Oscars" from the 59th Sentai and 14 from the 24th Sentai. The 348th had been tasked with escorting C-47s into Marilinen in conditions that soon became overcast. Although the "Oscars" engaged the transports, they were in turn targeted by the escorting Thunderbolts. 1Lts Shohei Inaba and Takeyoshi Fujikawa and Sgt Yoshiuki Yamanaka from the 59th Sentai were all killed. The 59th's top-scoring pilot, Lt Hiroshi Onozaki, was among the attackers, despite being afflicted by illness. Having insisted on flying the mission, he was medically evacuated home shortly thereafter. (Cover artwork by Gareth Hector)

Title page
Ki-43-IIs of the 24th Sentai sit idle at Dagua. This airstrip on the northern New Guinea coastline was carved out of the jungle by IJAAF engineers in early 1943, and the 24th Sentai was the first unit to take up residence in May of that year. All of the "Oscars" are equipped with two drop tanks apiece. (Dr. Yasuho Izawa Collection)